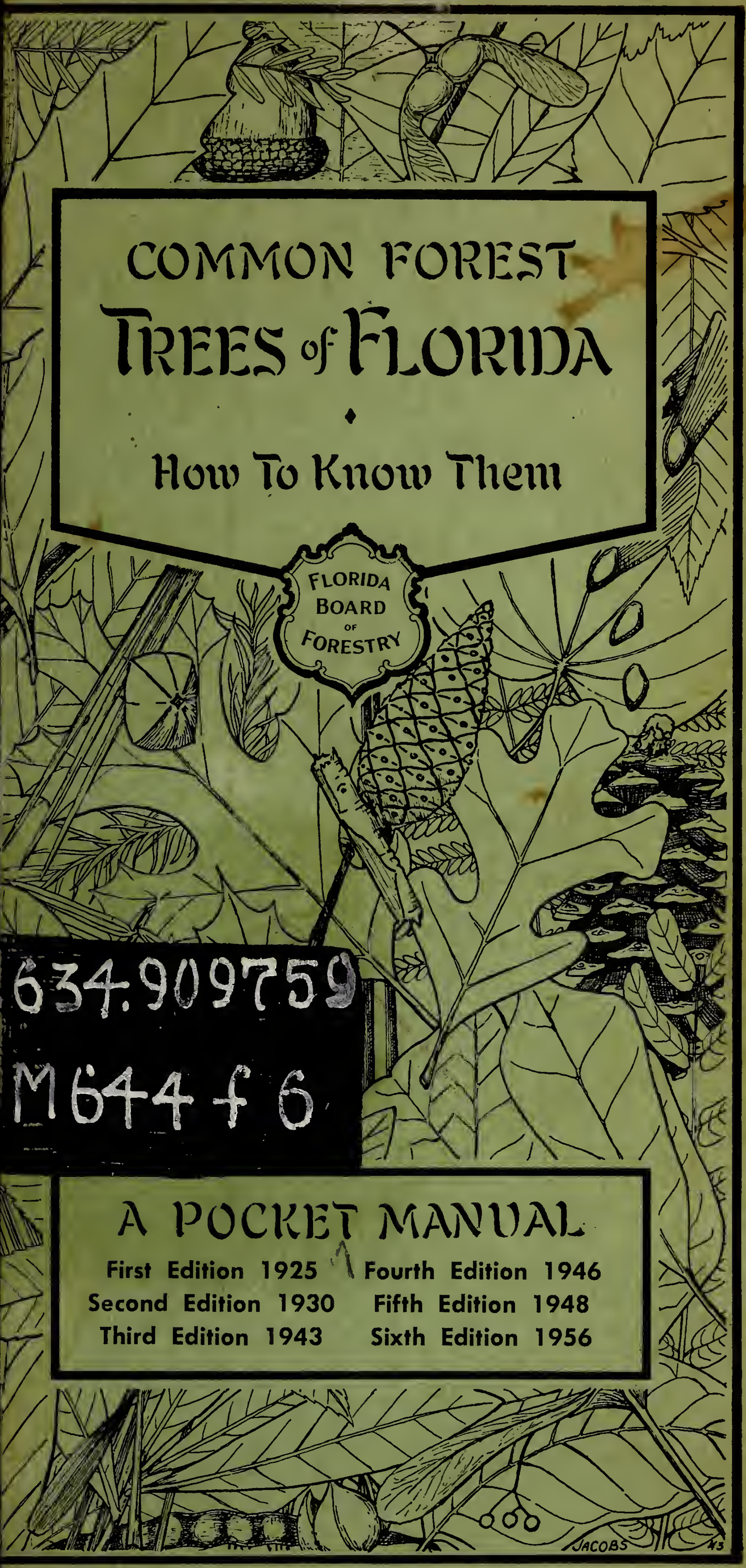


COMMON FOREST
TREES of FLORIDA

◆

How To Know Them

FLORIDA
BOARD
OF
FORESTRY

634.909759
M644 f 6

A POCKET MANUAL

First Edition 1925
Second Edition 1930
Third Edition 1943
Fourth Edition 1946
Fifth Edition 1948
Sixth Edition 1956

UNIVERSITY
OF FLORIDA
LIBRARIES

1853

COMMON FOREST
TREES of FLORIDA
How to Know Them

FLORIDA
BOARD
OF
FORESTRY

First Edition prepared by Wilbur R. Mattoon, published in 1925 by the Florida Forestry Association in cooperation with the Forest Service, United States Department of Agriculture. Second Edition, 1930, released by Florida Forest and Park Service. Third Edition, issued 1943. Fourth edition, issued 1946. Fifth edition revised and printed 1948. Sixth edition revised and printed 1956.

634.909759
M444f6

FOREWORD

This handbook was prepared originally by the late Wilbur R. Mattoon, Extension Forester of the United States Forest Service, and was first published in 1925 by the Florida Forestry Association. Mr. Mattoon, at that time, acknowledged his indebtedness for valuable aid and information to: George B. Sudworth, W. W. Ashe, C. S. Sargent, J. K. Small, and John C. Gifford. He credited to the Houghton-Mifflin Company the use of cuts of 6 conifers from Sargent's "Manual of the Trees of North America" and to Mrs. A. E. Hoyle of the United States Forest Service all other illustrations in the volume.

In 1930, the handbook was reprinted by the Florida Forest Service. The only change from the original edition was the inclusion of a supplemental list of 153 less important native species not described.

Florida is the most prolific state in the Union in tree flora. There are approximately 314 species growing in the state, comprising almost half of all the trees in North America, north of Mexico. The state's tree flora can be broken down into four principal divisions: sweet gum, red maple, tulip tree and slash pine in the north; a southern division composed of longleaf pine, magnolia, and cypress; a Caribbean representation including royal palm, mahogany, and gumbo-limbo and an endemic representation such as Florida yew, dune holly, and Florida hickory.

Generally speaking, the pine species are the most prolific, the most valuable and versatile of all Florida tree species. Pine forests cover most of north and northwest Florida. An intensive effort is being made by the Florida Forest Service, through its Tropical Forestry Project, located at Fort Myers, to find ways of establishing similar forests of valuable tropical species in South Florida. The most promising species tested so far are African Mahogany, India Walnut, cajeput, and cypress-pine.

The most noticeable difference from earlier editions is the considerable change in nomenclature; this has been revised to agree with the "Standardized Plant Names" issued in 1942 by the American Joint Committee on Horticultural Nomenclature. In many instances there are from two to ten common names in use for a single species. In the earlier editions of the handbook, the name in most general use was given preference. In this volume, the editors have adopted the name accepted by "Standardized Plant Names." "Common Forest Trees of Florida" is the only popular handbook in general use in Florida by school pupils, garden clubs, scout troops, nature study clubs, and the like. It is believed that emphasis on the common name accepted by scientists will hasten the general acceptance and use of that name by the public and help to eliminate the confusion resulting from the use of several common names.

The Cabbage Palm (sabal palmetto), designated Florida's official State Tree by the 1953 legislature.

CONTENTS

Ash, Carolina 90
” Green 89
” Pumpkin 91
Baldcypress, Common 10
Basswood 77
Bay, Loblolly 78
” Red 57
” Sweet 54
” White 54
Beech, American 29
” Blue 27
Beureria 92
Birch, West Indian 69
Blolly, Longleaf 51
Boxelder 75
Buckwheattree 71
Bumelia, Woollybucket 86
Butterbough 76
Buttonbush, Common 94
Buttonwood 80
Catalpa, Southern 93
Cedar, Red 12
” Southern White 11
” Stinking 13
Chinkapin, Ashe 30
Corkwood, Florida 24
Cottonwood, Swamp 25
Dogwood, Jamaica 68
Elm, American 43
” Slippery 45
” White 43
” Winged 44
Eugenia, Redberry 81
Falsecypress, White Cedar 11
Falsemangrove 80
Fig, Florida Strangler 49
Fishfuddletree, Florida 68
Gordonia, Loblollybay 78
Gum, Black 82
” Hog 70
” Red 59
” Sweet 59
” Tupelo 83
Gumbolimbo 69
Gum Elastic 86
Hackberry, Sugar 47
Haw, Rusty Black 95
Hawthorn 63
Hickory, Bitternut 19
” Florida Pignut 22
” Hammock 22
” Mockernut 21
” Swamp 20
” Water 20
” White 21
Holly, American 72
Hophornbeam, American 28
Hornbeam, American 27
Inkwood 76
Ironwood 28, 76
Jungleplum 85
Juniper 11
” Westindies 12
Laurelcherry, Carolina 65
Linden 77
Lysiloma, Bahama 66
Magnolia, Bigleaf 53
” Evergreen 52
” Southern 52
” Sweetbay 54
Mangrove, American 79
” White 80
Maple, Florida 73
” Southern Sugar 73
” Trident Red 74
Mastic 85
Mulberry, Red 48
Oak, Basket 40
” Black 31
” Bluejack 36
” Chinkapin 41
” Laurel 35
” Live 42
” Overcup 39
” Pin 41
” Post 38
” Sand Blackjack 32
” Swamp Chestnut 40
” Turkey 32
” Upland Willow 36
” Water 33
” White 37
” Willow 34
Olive, Wild 85
Palm, Cabbage 16
” Cuban Royal 17
” Thatch 15
Palmetto, Cabbage 16
Persea, Redbay 57
Persimmon, Common 87
Pine, Black 5
” Cedar 8
” Loblolly 6
” Longleaf 3
” Oldfield 6
” Pond 5
” Sand 9
” Shortleaf 7
” Slash 4
” Smoothbark 8
” Spruce 8
Planetree, American 61
Planer-tree 46
Plum, American 64
” Pigeon 50
Poisontree, Florida 70
Pondapple 56
Poplar, Swamp 25
” Yellow 55
Sassafras, Common 58
Seagrape, Pigeon 50
Serviceberry, Shadblow 62
Shadblow 62

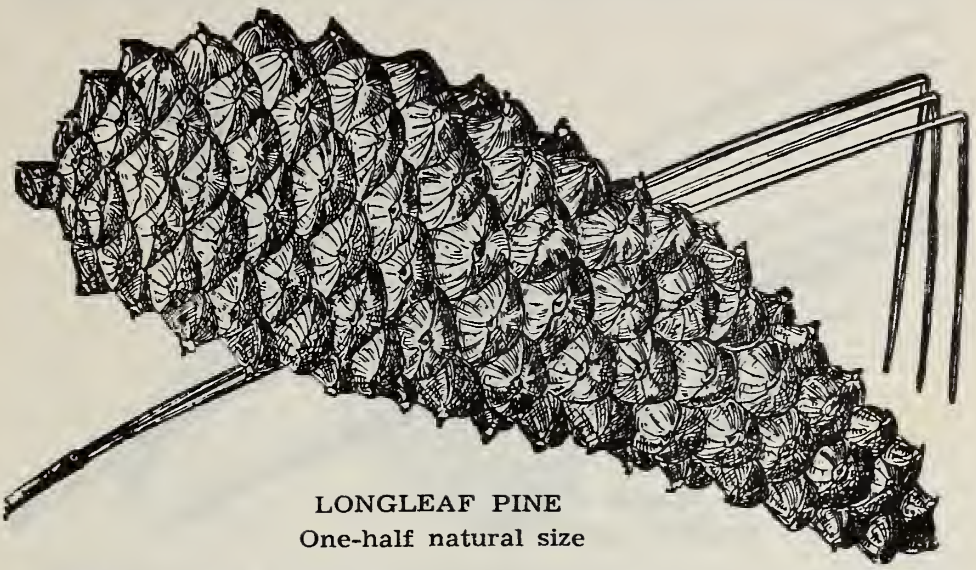
CONTENTS—(*Continued*)

Silverbell, Carolina 88
Sorrel-tree 84
Sourwood 84
Strongbark, Ovalleaf 92
Stopper, Red 81
Sugarberry 46
Sweetgum, American 59
Sycamore 61
Tamarind, Wild 66
Thatchpalm, Jamaica 15
Titi 71
Torreya, Florida 13
Tuliptree 55
Tupelo, Black 82
" Water 83
Wahoo 77
Walnut, Eastern Black 18
Waterelm 46
Waterlocust 67
Waxmyrtle, Southern 23
Willow, Black 26
Witchhazel, Southern 60
Yew, Florida 14
Viburnum, Rusty Blackhaw 95

LONGLEAF PINE

(Pinus palustris)

THE young longleaf pine forms one of the most striking features of the southern forest. When 5 to 10 years of age, the single upright stem with its long, dark shiny leaves, forms a handsome plume of sparkling green, while in later youth the stalwart, sparingly branched sapling, with its heavy twigs and gray bark, attracts immediate attention. The older trees have tall, straight trunks, mostly 1 to 2 feet in diameter and open, irregular crowns, one-third to one-half the length of the tree.



LONGLEAF PINE
One-half natural size

Longleaf pine is found over the whole State, less abundantly in the lower peninsula. It has been extensively logged, bled for turpentine, repeatedly burned and ranged over by native "razor-back" hogs until in many sections it has been almost exterminated or replaced by other pines.

The **leaves** are from 10 to 15 inches long, in clusters of 3, and gathered toward the ends of the thick, scaly twigs. The **flowers,** appearing in early spring before the new leaves, are a deep rose-purple, the male in prominent, short, dense clusters and the female in inconspicuous groups of 2 to 4.

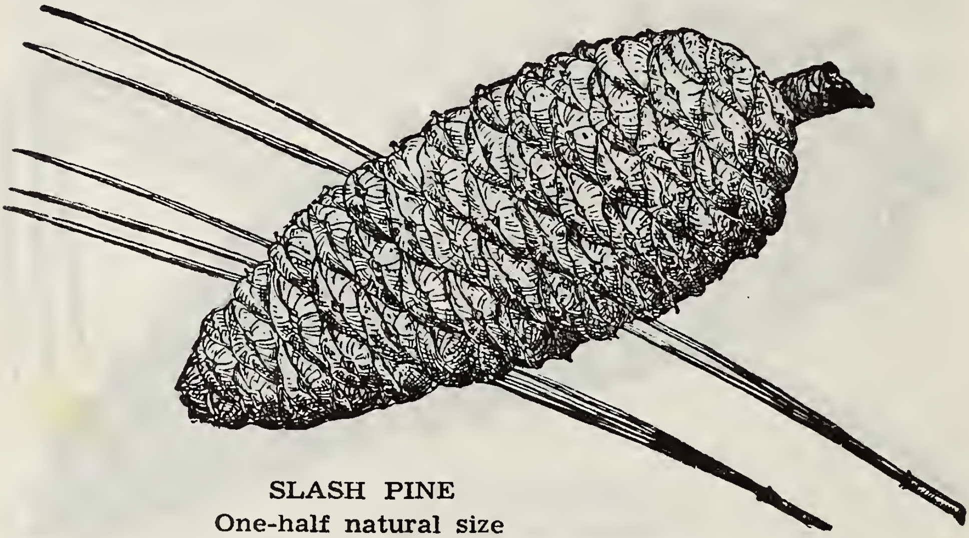
The **cones,** or burrs, are 6 to 10 inches long, slightly curved, the thick scales armed with small curved prickles. The cones usually fall soon after the seeds ripen, leaving their bases attached to the twigs.

The **wood** is heavy, hard, strong, tough and durable. As Georgia pine, pitch pine and southern pine, it has been, and still is, used for all kinds of building and other construction. Naval stores, consisting of tar, pitch, rosin and turpentine, are obtained from this tree and its close relative, the slash pine, by bleeding the trees for their gum.

SLASH PINE (Yellow Slash)

(*Pinus elliottii, var. elliottii* [*Little*])

SLASH pine is a tree common to all parts of Florida. Because of its abundant seed production and rapid growth, it has naturally replaced longleaf pine over large areas. Second-growth stands are, however, either very young or scattered for the reason that slash pine produces crude gum in such large amounts and at such early ages that it has been for the past 30 years heavily worked for turpentine in all sizes down to saplings. Large amounts of timber have thus been killed by being overworked with too many or too large faces. A variety found in south Florida (Pinus elliottii, var. densa) and the sandy coast and islands produces gum sparingly. Because of its rapid growth, easy propagation and early yield of timber and crude turpentine, slash pine promises excellent returns when planted and grown as a crop.



SLASH PINE
One-half natural size

The **trunk** is straight, clears itself easily of branches, and is crowned with numerous small branches forming a round-topped head.

The **leaves** which occur in clusters of 2 or, more often, 3 in a sheath are from 8 to 12 inches long, dark green, shiny, and thickly-set on the branches, forming a dense head.

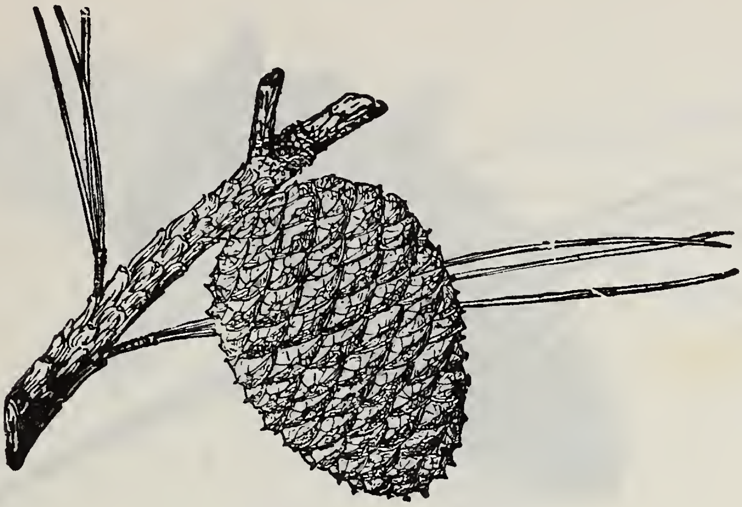
The **cones** are mostly 3 to 6 inches long, brown, and glossy or varnished, and the thin scales are armed with fine prickles. Slash may best be distinguished from all other pines by these characteristics of its leaves and cones.

The **wood** is heavy, hard, strong, tough, durable and very resinous. It is sawed into lumber and sold without discrimination as longleaf pine, being used for general building and heavy construction purposes for which it brings good prices.

POND PINE (Black Pine)

(Pinus rigida serotina)

THE pond pine, also known as pocoson pine, bay pine or black-bark pine, is found in small swamps and on flat, undrained, poor, sandy, or low, peaty soils of the coast regions of north Florida. It averages 40 to 50 feet in height and 1 to 2 feet in diameter. The trunk is often slightly crooked and somewhat rough with knots or bulges. The tree somewhat resembles loblolly pine, but can be distinguished most easily by the broader and shorter cones, and its location generally on wet or very sour lands.



POND PINE
One-half natural size

The **leaves** occur in clusters of 3, or occasionally 4, and range in length from 5 to 8 inches. They persist on the branches for 3 to 4 years. Small tufts or dwarf branches of leaves often occur on the trunks and larger limbs. The **cones** or burrs, when open are noticeably globular in outline, somewhat flattened, 2 to 2½ inches long. Like all pines, they require two seasons for ripening, but remain closed for 1 to 2 years afterward, and persist on the branches for several years.

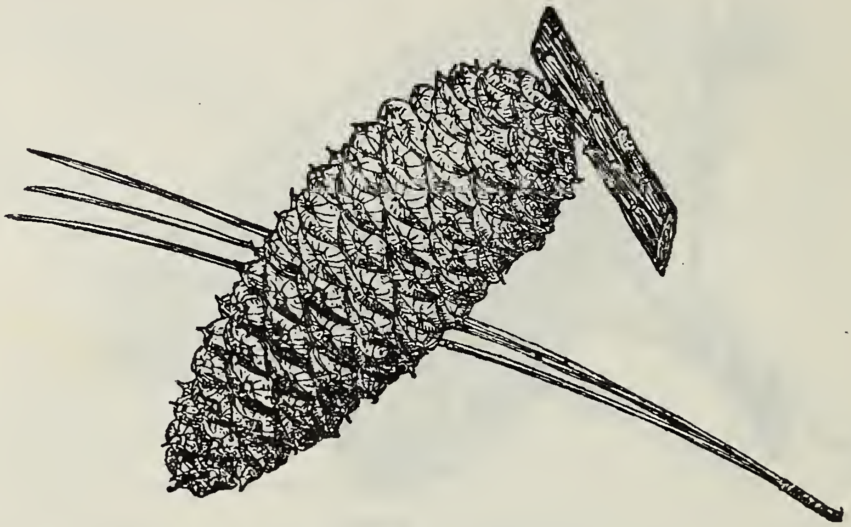
The **bark** is dark red-brown and irregularly divided by shallow furrows.

The **wood** is resinous, heavy, often coarse-grained, orange-colored, with pale yellowish, wide sapwood. It is sawed and sold without discrimination along with lumber of other southern pines. In the earlier days of lumbering this pine was not much used for lumber. It is one of the few species of pine which, following cutting or killing-back by fire, sprouts from the stumps of young vigorous saplings.

LOBLOLLY PINE (Oldfield Pine)

(Pinus taeda)

THIS pine which ranks important over much of the South, is found in north Florida, abundant near Tallahassee, and generally in the narrow strips of alluvial soil along streams and rivers. It requires good soil. It occurs rarely farther south, and is estimated as making less than 1 per cent of the pine in the State. Young slash pine has been frequently mistaken and thought to be loblolly, which has much shorter **leaves** (straws), always 3 in a sheath, while slash has either 2 to 3 in a sheath. The burr is longer and more prickly than that of the pond pine.



LOBLOLLY PINE
One-half natural size

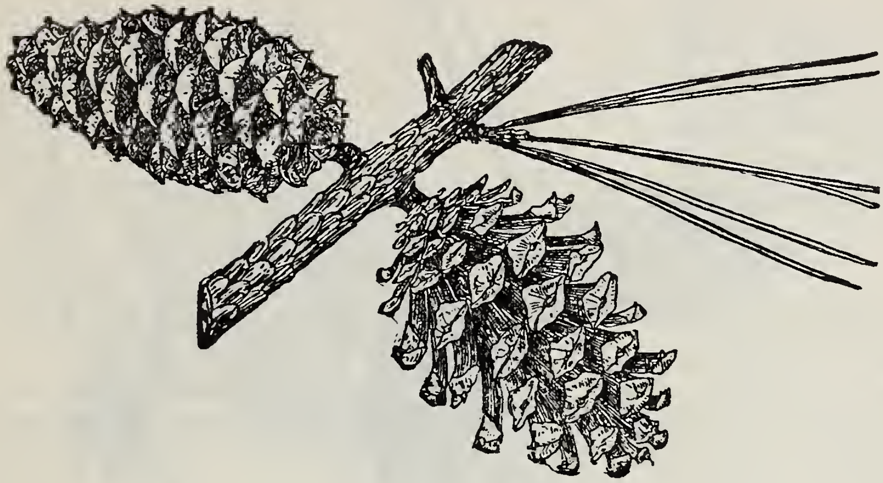
The **bark** is dark in color and deeply furrowed, and often attains a thickness of as much as 2 inches on large-sized trees. The **leaves,** or needles, 6 to 9 inches long, are borne three in a cluster, and, in the spring, bright green clumps of them at the ends of branches give a luxuriant appearance to the tree. The **fruit** is a cone, or burr, about 3 to 5 inches long, which ripens in the autumn of the second year, and, during fall and early winter, sheds many seeds which, by their inch-long wings, are widely distributed by the wind.

The resinous **wood** is coarse-grained, with marked contrast, as in the other yellow pines, between the bands of early and late wood. The wood of second-growth trees has a wide range of uses where durability is not a requisite, such as for building material, box shooks, barrel staves, basket veneers, pulpwood, lath, mine props, piling and fuel.

SHORTLEAF PINE

(Pinus echinata)

THE shortleaf pine, also known as yellow pine, rosemary pine, and old-field pine, is widely distributed throughout the South, but finds its true home in the Piedmont section and Arkansas. It is in north Florida, but sparse, and mostly on dry hills. The young tree in the open has a straight and somewhat stout stem with slightly ascending branches. In maturity the tree has a tall, straight stem and an oval crown, reaching a height locally of about 60 feet and a diameter of about 2½ feet. The young tree, when cut or burned back, reproduces itself by sprouting from the stump.



SHORTLEAF PINE
One-half natural size

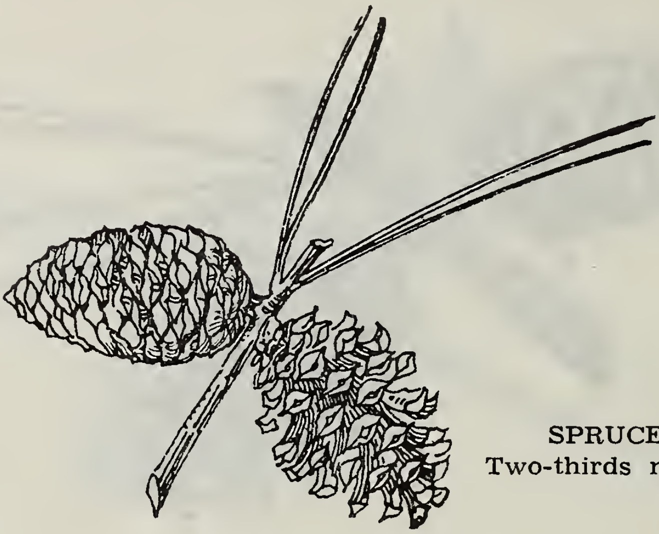
The **leaves** are in clusters of two or three, from 3 to 5 inches long, slender, flexible, and dark blue-green. The **cones** or burrs are the smallest of all our pines, 1½ to 2½ inches long, oblong, with small sharp prickles, generally clustered, and often holding to the twigs for 3 or 4 years. The small seeds are mottled and have a wing, which is broadest near the center. The **bark** is brownish red, broken into rectangular plates; it is thinner and lighter-colored than that of loblolly pine. This is most readily identified by its leaves and cones.

The **wood** of old trees is rather heavy and hard, of yellow-brown or orange color, fine-grained and less resinous than that of the other important southern pines. It is used largely for interior and exterior finishing, general construction, veneers, paper pulp, excelsior, cooperage, mine props, and other purposes.

SPRUCE PINE (Smooth Bark or Cedar Pine)

(Pinus glabra)

USUALLY growing singly or in small groves among hardwoods in rich soils of hammocks or river swamps, mostly in the northwestern portion of the State. It may be easily recognized by its dark almost smooth bark unlike that of any other kind of tree found within its range. It is a large tree for it reaches a height of 80 to 100 feet and a diameter of 2 to over 3 feet. It has comparatively small horizontal branches which form a narrow open crown. This pine resembles considerably the true white pine of the mountains for which it is not uncommonly mistaken.



SPRUCE PINE
Two-thirds natural size

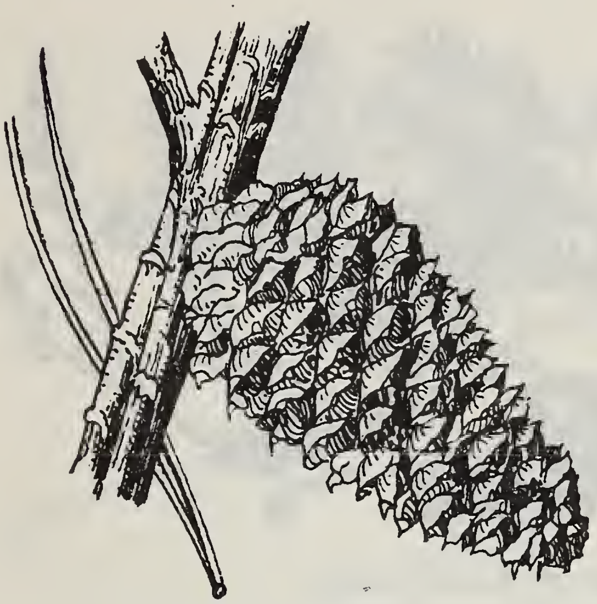
The **leaves** occur in clusters of two and are soft, slender, dark green and mostly from 2 to 3 inches long. They fall at the end of their second year. The **cones** are single or in clusters of 2 to 3 on short stout stalks. They are 1½ to 2 inches long, reddish brown in color and rather lustrous, with thin scales armed with small weak prickles. They soon open and shed their seeds but remain on the tree for several years. The **bark** on young trees and on the upper part of the trunks is smooth pale gray, becoming noticeably dark on the lower part of the older trees, and slightly and irregularly divided by shallow fissues into flat connected ridges.

The **wood** is light, soft, brittle, close-grained, and not very strong. When sawed into lumber, the wood warps easily. It is increasingly used for various purposes and is well adapted for use in making paper pulp. With the growing scarcity of timber and closer utilization of our forest trees, this pine will likely be of more value in the future because of its large size and easy accessibility.

SAND PINE

(Pinus clausa)

THE sand pine grows in very sandy soils throughout the State, except in the more southern portion. It is most abundant in eastern Florida and the middle of the peninsula. It comes in extensively following fires when weather conditions are favorable showing that the seed has special protective equipment and holds its vitality well. Its growth is rapid considering that it is confined to the poorer sandy soils. In several points, this tree resembles the Virginia, or scrub pine and the jack pine of the great Lakes region.



SAND PINE
Three-quarters natural size

The tree most commonly gets to be 20 to 30 feet in height, with a somewhat crooked trunk usually not over a foot in diameter and a much-branching head. The tree has a scrubby or inferior appearance from a timber standpoint.

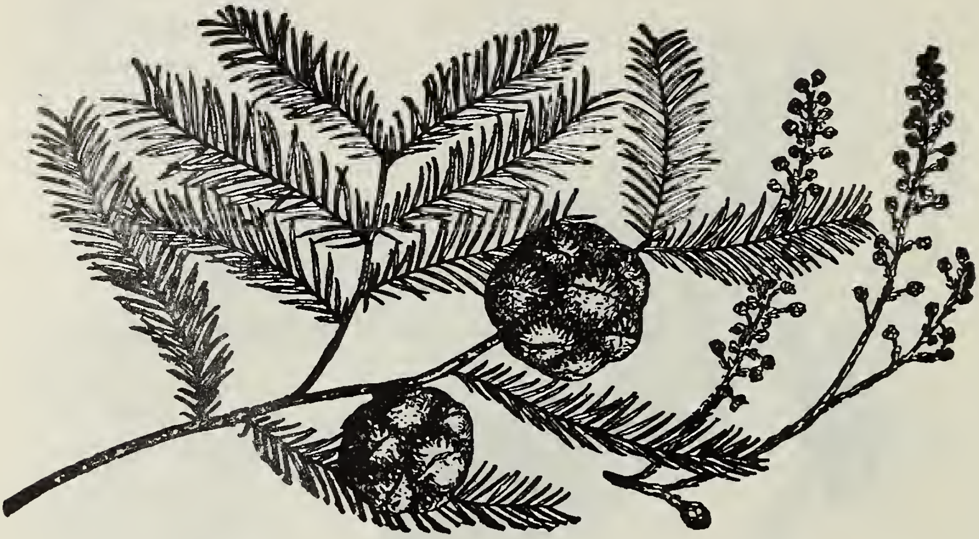
The **leaves** are two in a sheath, 2 to 3 inches long, slender, and dark green. The **fruit** is a cone, or burr, about 2 to 3 inches in length which persists on the tree for a long time. Some of them open when mature, while others remain closed for 2 to 4 years, and still others remain closed and even become overgrown and embedded in the wood. The seeds are small and winged and are widely disperse by winds. These characteristics explain why an excellent young stand often follows a sweeping fire. The **bark** is rough and dark colored over the lower part of the tree, but light reddish or ashy gray on the young branches and twigs.

The **wood** is orange or yellowish, with thick, nearly white sapwood. It is light, soft, brittle, and not strong. Up to the present time it is not used, except a little for firewood. It is well adapted for use as paper pulp.

COMMON BALDCYPRESS

(Taxodium distichum)

THE cypress, or bald cypress, is a tree found exclusively in deep swamps which are usually flooded for long periods at a time, and on wet stream banks and bottomlands in the lower Atlantic Coastal Plain and westward. Its straight trunk with numerous ascending branches, and narrow conical outline makes the tree one of considerable beauty. In old age, the tree generally has a broad fluted or buttressed base, a smooth slowly tapering trunk and a broad, open, flat top of a few heavy branches and numerous small branchlets. The original-growth timber attained heights of 80 to 130 feet and diameters of 5 to 10 feet.



COMMON BALDCYPRESS
One-half natural size

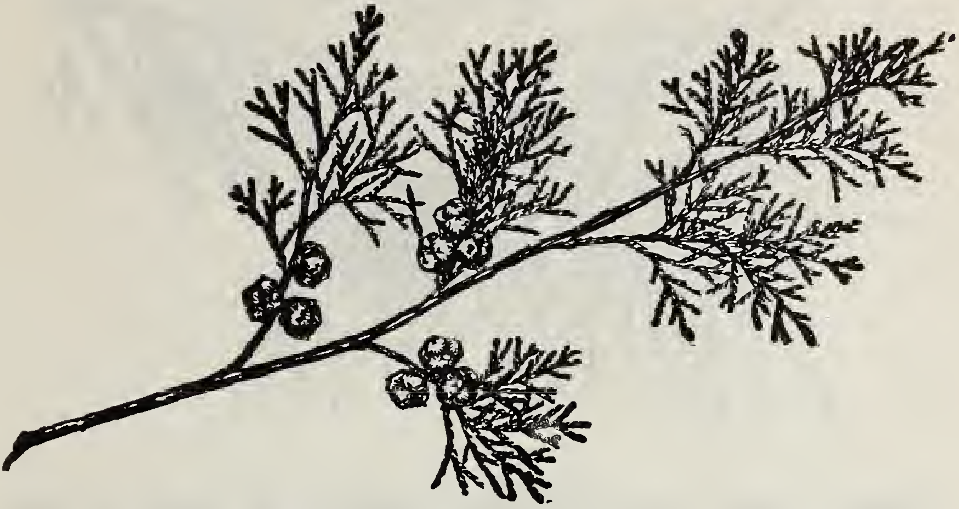
The **bark** is silvery to cinnamon-red and finely divided by numerous longitudinal fissures. The **leaves** are about one-half to three-fourths of an inch in length, arranged in feather-like fashion along two sides of small branchlets, which fall in the autumn with the leaves still attached; or they are scale-like and much shorter, light green, and sometimes silvery below.

The **fruit** is a rounded cone, or **"ball,"** about one inch in diameter, consisting of thick irregular scales.

The **wood** is light, soft, easily worked, varies in color from a light sapwood to dark-brown heartwood, and is particularly durable in contact with the soil. Hence, it is in demand for exterior trim of buildings, greenhouse planking, boat and ship building, shingles, posts, poles and crossties.

WHITECEDAR FALSECYPRESS
(Southern White Cedar or Juniper)
(Chamaecyparis thyoides)

EXCLUSIVELY a tree of the Coastal Plain, it is found in year-round swamps from New England southward to Florida and Mississippi. It occurs with bald cypress and deep swamp hardwoods, but more often is found in pure stands called "glades," where the smooth, clean trunks are so closely set as to give the impression of "serried ranks." The branches are very short and horizontal, so that even when grown in the open the tree has a long, narrow, conical shape.



WHITECEDAR FALSECYPRESS
One-half natural size

The **leaves** are minute, scale-like, overlapping, 4-ranked, of a bluish green color, and entirely cover the ends of the slender, drooping twigs. The **fruit** is a rather inconspicuous, smooth cone, nearly round, about one-fourth inch in diameter, maturing in one year and containing from four to eight winged seeds.

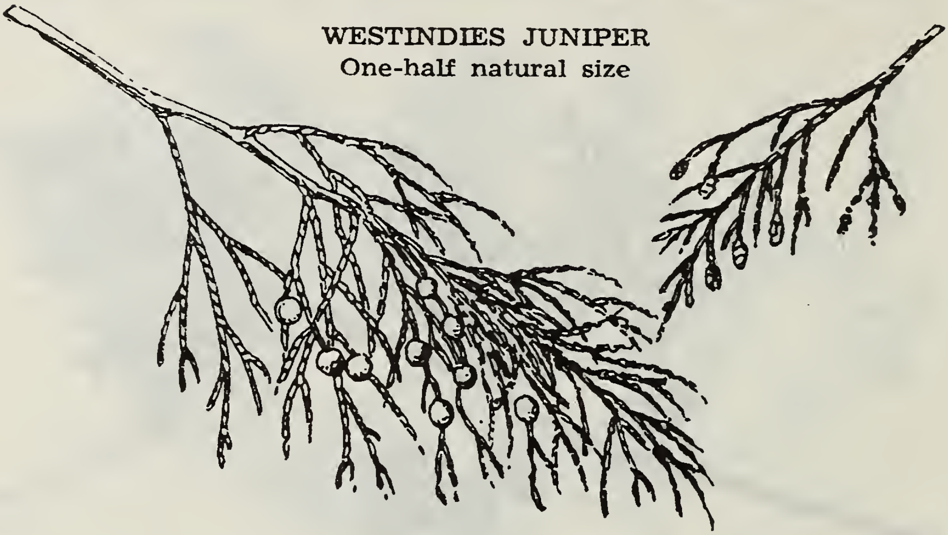
The **bark** is quite thin, varies in color from ashy gray to light reddish brown, and readily separates into loose plate-like scales, which easily peel off in long fibrous strips. The **wood** is light, soft, close-grained, slightly fragrant, especially in contact with water. These qualities make it in demand for boat and canoe building, cooperage, shingles and fence posts. It is being substituted for chestnut for telephone poles, as the supply of the latter species becomes scarcer. Because of the limited supply available, its lumber is not well known in the general markets.

WESTINDIES JUNIPER (Red Cedar)

(Juniperus lucayana)

A TREE closely related and generally similar to the common northern red cedar. It is found over Florida except in the southern part of the peninsula, and most abundant in West Florida. Incidentally, this cedar is found in the Bahamas, Cuba, and other islands.

There are two kinds of **leaves**, usually both kinds being found on the same tree. The commoner kind is dark green, minute and scale-like, clasping the stem in four ranks, so that the stems appear square. The other kind, usually appearing on young growth or vigorous shoots, is awl-shaped, quite sharp-pointed, spreading and whitened.


WESTINDIES JUNIPER
One-half natural size

The two kinds of **flowers** are at the end of minute twigs on separate trees. Blooming in February or March, the male trees often assume a golden color from the small catkins, which, when shaken, shed clouds of yellow pollen. The **fruit**, which matures in one season, is pale blue, often with a white bloom, 1/6 of an inch in diameter, berry-like, enclosing one or two seeds in the sweet flesh. It is a favorite winter food for birds.

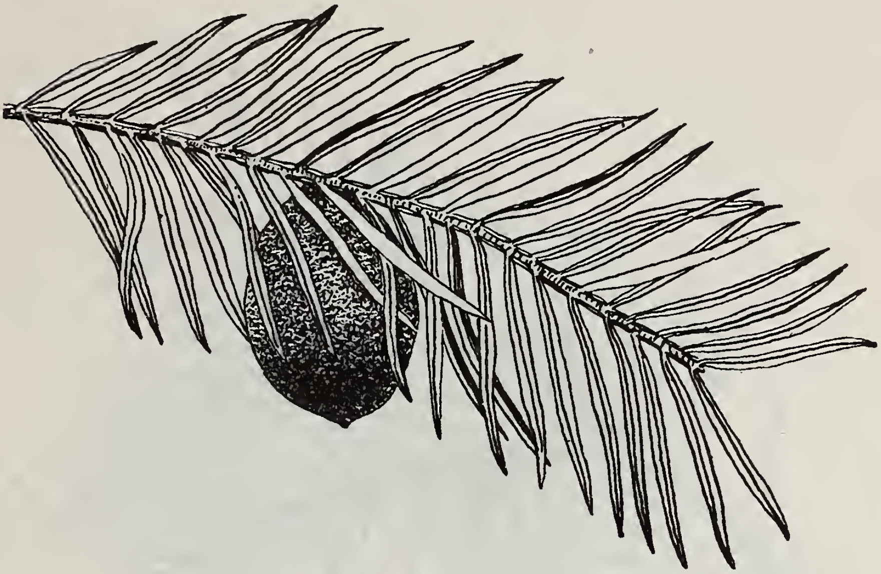
The **bark** is very thin, reddish brown, peeling off in long shred-like strips. The tree is extremely irregular in its growth, so that the trunk is usually more or less grooved.

The heart **wood** is distinctly red, and the sapwood white, this color combination making very striking effects when finished as cedar chests, closets and interior woodwork. The wood is aromatic, soft, strong and of even texture, and these qualities make it most desirable for lead pencils. It is very durable in contact with the soil, and on that account is in great demand for posts, poles and rustic work.

FLORIDA TORREYA (Stinking Cedar)

(Torreya taxifolia)

THIS cedar tree is found chiefly on the limestone bluffs along the Apalachicola River. It is generally scattered or rare. The common name comes from the disagreeable odor given off when the tree is bruised. It reaches a height occasionally of 40 feet, and forms an attractive but rather open top, or head, of drooping branches. The one other species is found in California.



FLORIDA TORREYA
Three-quarters natural size

The **leaves** are stiff, dark green and shiny above, and paler and somewhat banded below, in two ranks along the twig, each about 1½ inches long and ⅛ inch wide. The **flowers** open in March or April. The **fruit** is berry-like, grayish or bluish, rounded, about 1½ inches in length, and contains usually one seed in a pulpy enclosure.

Botanically this tree seems to be one of the later or higher types of the conifers (pines, etc.), more resembling some of the hardwoods, or broadleaved trees.

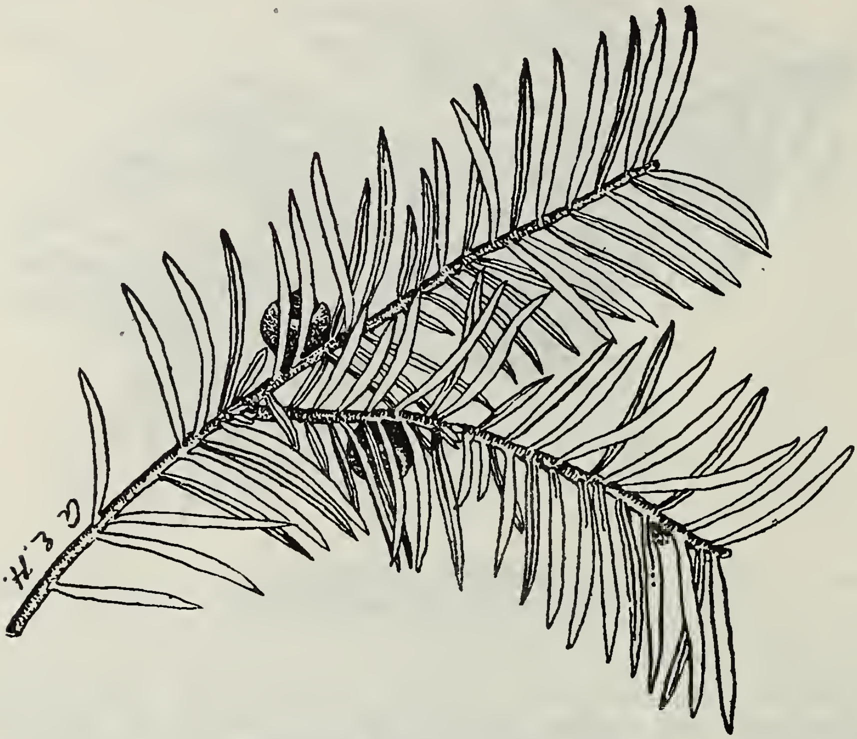
The **wood** is clear yellowish, close grained because of its slow growth, hard, strong, and sought for and used for fence posts because of its lasting qualities in contact with the soil.

FLORIDA YEW

(Taxus floridana)

THE Florida yew is closely related botanically to stinking cedar, and like the latter, there is only one other **species** (or very close relative) found in the United States, namely in the Pacific Coast region. The bark of the yew when injured gives off a pleasant odor.

This is a small tree, rarely up to 25 feet in height, and more commonly 10 to 15 feet, with a short trunk having numerous spreading branches, and rather shrubby in appearance. It occurs on the river bluffs and ravines of the eastern side of the Apalachicola River in Gadsden County.



FLORIDA YEW
Three-quarters natural size

The **leaves** are leathery, curved, dark green above and pale below, nearly one inch long by less than 1/10 inch wide, and in two rows on opposite sides of the slender branchlet. The **flowers** appear in March, and the **fruit** ripens about October. It is small, pulpy, berry-like about 1/3 inch long, and contains a single seed surrounded with a hard coat.

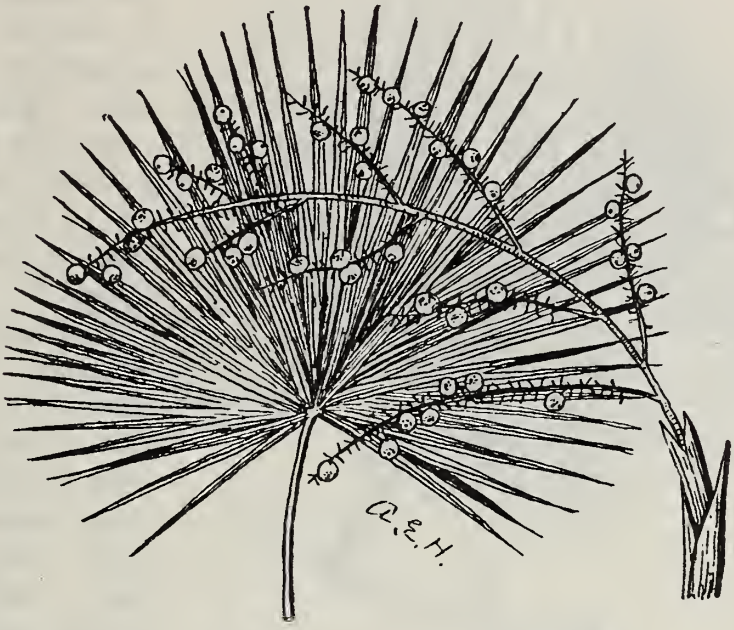
The **wood** is heavy, hard, very close-grained because of the very slow growth of the tree, reddish brown in color, with a thin band of nearly white sapwood. The wood is suitable for fence posts. Botanically, the yew is closely related to the European yew which from the earliest recorded time in history has been the favorite wood for making bows.

JAMAICA THATCHPALM

(Thrinax parviflora)

THE lower or earlier forms of the true flowering trees include the palms. Of the twelve species of tree palms native in the United States, ten occur in Florida and two in California.

Thatch is found on the hammocks and sandy shores along the southern end of the Peninsula, scattered from Dade County to north of Cape Sable. Its principal home is in Cuba and some smaller islands near Honduras. It is one of the unarmed palms. In Florida, it becomes a tree up to 25 feet in height with a smooth pale trunk 3 to 4 feet in diameter.



JAMAICA THATCHPALM
One-tenth natural size

The **leaves** are fan-shaped, 2 to 3 feet in diameter, rounded in outline, yellow-green in color, shiny above, with leave stalks from 2 to 4 feet long, smooth or without marginal spines, and much thickened at the bases. They are clustered at the top of the tree trunk. The **flowers** are very small, and in compound clusters from 2 to 4 feet long. The **fruit** is a white "stone fruit," ¼ to ⅜ inch in diameter, rounded, and contains a thin-shelled dark brown seed or nut.

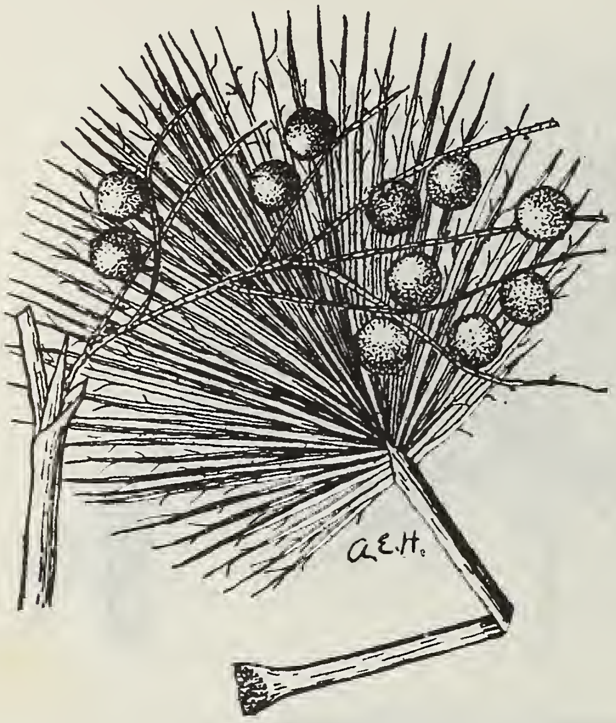
The **wood** is brown in color, the outer portion hard but the inner portion softer.

CABBAGE PALMETTO (Cabbage Palm, or Cabbage Tree)

(Sabal palmetto)

THIS member of the palm family is named from the large leaf-bud, or "cabbage" at the top of the trunk, which is cooked and eaten as a vegetable. The loss of the bud causes a branching, if not the death of the tree. Like the lilies, grasses, and corn, the palms grow upward from a single terminal bud, and grow outward from many bundles of tissue located centrally within the trunk. This is unlike the growth of the pine, gums, oaks, and many other trees which yearly form a ring of wood.

The cabbage palmetto is a tree from 50 feet to 80 feet, with a straight clear trunk up to 2 ft. in diameter, covered with shallow ridges and fissures. It grows in sandy soil or hammocks over most of the coast region, including the Keys, west to the Apalachicola River.



CABBAGE PALMETTO
Leaf, one-thirtieth natural size
Fruit, about natural size.

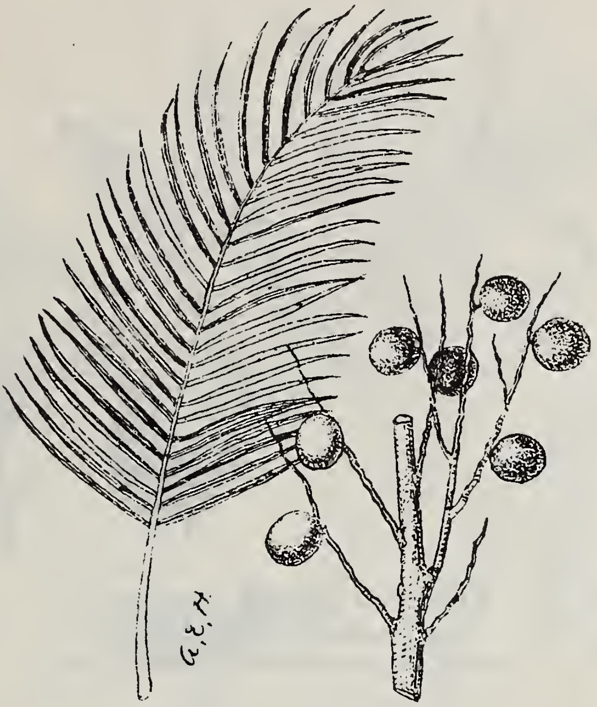
The **leaves** are from 5 to 8 feet long usually broader than long, dark green, shiny, deeply divided into narrow portions, and borne on leaf-stems from 5 to 7 feet long. The stem of the tree is covered with a thick rind and marked in rings where the old sets of leaves have fallen off. The **fruit** consists of many rounded berries, about 1/3 inch in diameter, each containing a brownish colored seed.

The **wood** is light, soft, pale brown, containing numerous hard fibres or "threads." The trunks are used for piling and sawed into disks for ornamental table tops. Baskets, mats and hats are made from the leaves, and brushes from the fibres in the sheaths of the young leaves and trunk.

CUBAN ROYAL PALM

(Roystonea regia)

AN account of the common native trees of Florida would be very incomplete without the Royal palm. Native on the shore and some of the nearby Everglade Keys of southern-most Florida, this majestic palm has been extensively planted in south Florida. The same tree is native and similarly widely planted for ornament and shade in Cuba and elsewhere.



CUBAN ROYAL PALM
Leaf, one-fortieth natural size.
Fruit, one-half natural size.

The tree rises to a height of some 80 to 120 feet, by a trunk some 2 feet in diameter with an enlarged base giving it an appearance of stability.

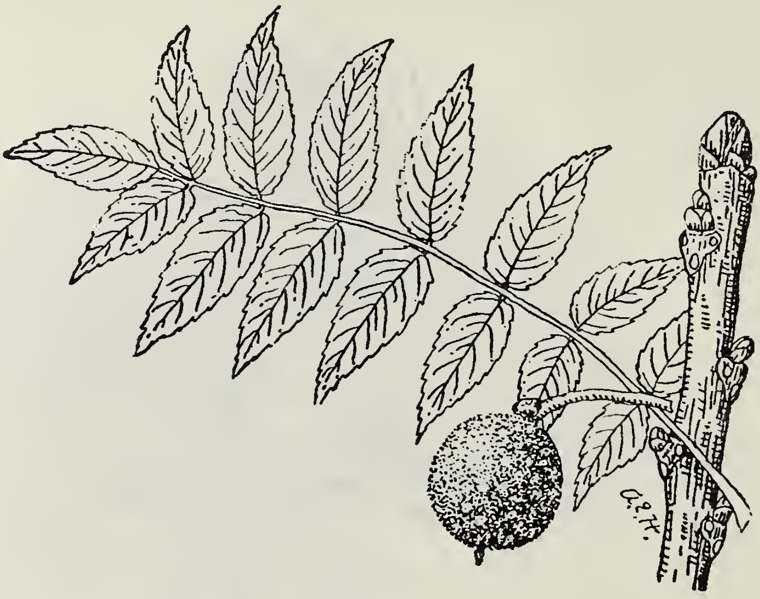
The **leaves** are from 8 to 12 feet long, consisting of many separate leaflets (or pinnae), deep green in color, each about 1½ inches wide near the base narrowing toward the tip and 2 to 3 feet in length; the leaf stalks are from 7 to 9 feet in length, bright green and nearly round except near the base, which is flattened and clasping on the tree trunk. The **flowers** open in January and February. The **fruit** consist of an oblong, violet-blue stone-fruit, or berry, about ½ inch long, and many of them borne on a branched flower stalk about 2 feet in length. Each contains a single light brown seed surrounded by a loose fibrous covering.

The **wood** is made up of many bundles of fibres softer than the hard shell-like outside portion. The tree trunks are used for piling and some kinds of construction.

EASTERN BLACK WALNUT

(Juglans nigra)

THIS valuable forest tree is native, along with many other northern hardwoods, in the rich limy soils of western Florida. It usually occurs singly, and attains heights up to 60 feet, generally branched with a short trunk. In open-grown trees the stem is short and the crown broad and spreading.



EASTERN BLACK WALNUT
Leaf, one-fifth natural size
Twig, three-quarters natural size

The **leaves** are alternate, compound, 1 to 2 feet long, consisting of from 15 to 23 leaflets of a yellowish green color. The leaflets are about 3 inches long, extremely tapering at the end, and toothed along the margin. The **bark** is thick, dark brown in color, and divided by rather deep fissures into rounded ridges.

The **fruit** is a nut, borne singly or in pairs, and enclosed in a solid green husk which does not split open, even after the nut is ripe. The nut itself is black with a very hard, thick, finely ridged shell, enclosing a rich, oily kernel edible and highly nutritious.

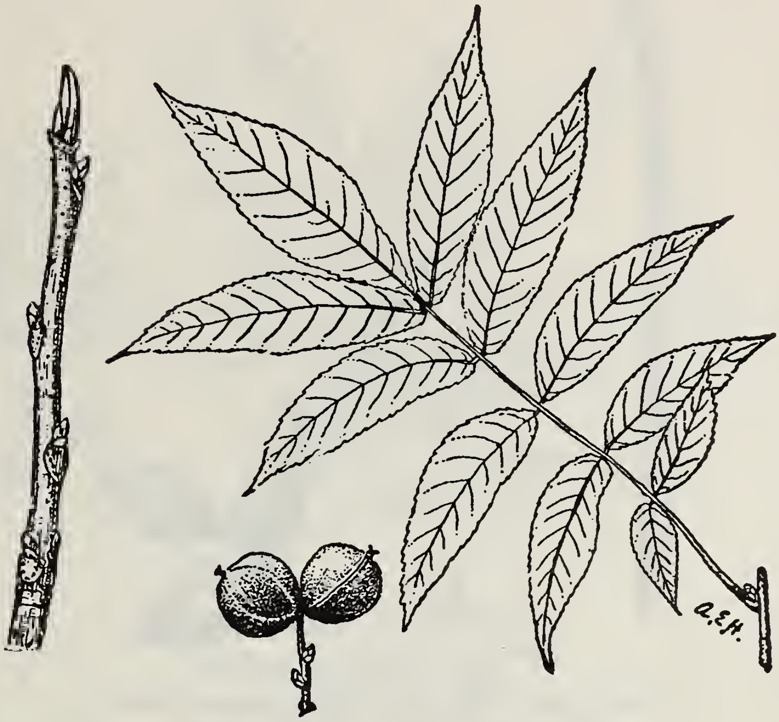
The **heartwood** is of superior quality and value. It is heavy, hard and strong, and its rich chocolate-brown color, freedom from warping and checking, susceptibility to a high polish, and durability make it highly prized for a great variety of uses, including furniture and cabinet work, gun-stocks, and airplane propellers. Small trees are mostly sapwood, which is light colored and not durable. Walnut is easily propagated from the nuts and grows rapidly on good soil.

BITTERNUT HICKORY

(Carya cordiformis)

THE bitternut hickory is a tall slender tree with broadly pyramidal crown, attaining a height of 100 feet and a diameter of 2 to 3 feet. It is found in the western part of the State on low moist soils, but is often fairly abundant.

The **bark** on the trunk is granite-gray, faintly tinged with yellow and less rough than in most of hickories, yet broken into thin, plate-like scales. The winter buds are compressed, scurfy, bright yellow, quite different from those of its relatives.



BITTERNUT HICKORY
Twig, one-half natural size.
Leaf, one-third natural size.

The **leaves** are alternate, compound, from 6 to 10 inches long, and composed of from 7 to 11 leaflets. The individual leaflets are smaller and more slender than those of the other hickories.

The **flowers** are of two kinds on the same tree. The **fruit** is about 1 inch long and thin-husked, while the nut is usually thin-shelled and brittle, and the kernel very bitter.

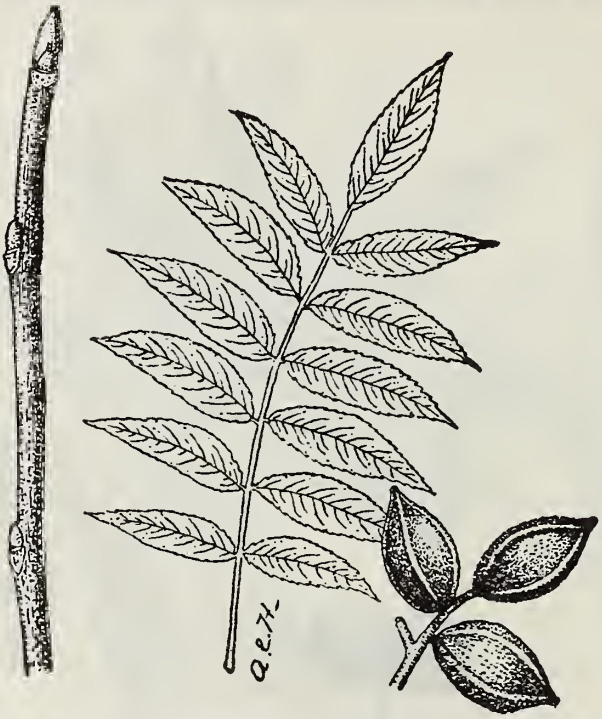
The **wood** is hard, strong and heavy, reddish brown in color. From this last fact it gets its local name of red hickory. It is said to be somewhat inferior to the other hickories, but is used for the same purposes.

WATER HICKORY (Swamp Hickory)

(Carya aquatica)

THE water hickory, as the name indicates, is found only in low lands, in wet woods, and in river swamps quite widely over northern Florida and east Arkansas. The branches are rather upright, forming a narrow head, and it may attain a height of about 90 feet and a diameter of over 2 feet.

The **bark** is over a half-inch thick, separating in loose plate-like, dark-brown or reddish scales. The twigs are slender, reddish brown, becoming dark gray.



WATER HICKORY
Fruit and Twig, two-thirds natural size.
Leaf, one-quarter natural size.

The **leaves** are compound, of 7 to 13 slender scythe-shaped leaflets, coarsely toothed on the margin, pale and whitish hairy when unfolding, becoming dark green and somewhat shining above. They are somewhat lustrous, brownish, hairy along the veins beneath, and rather thin in texture.

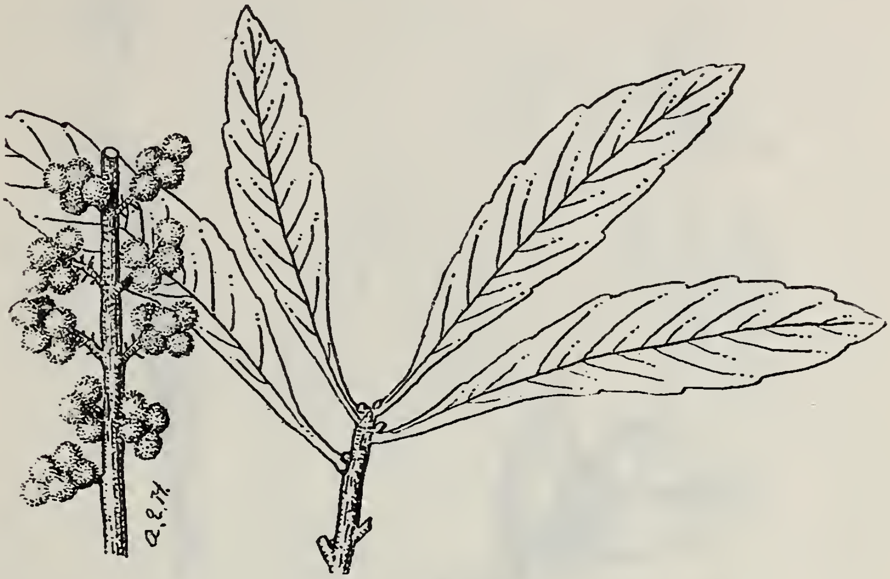
The **flowers** are imperfect, with both kinds on the same tree. The **fruit** is usually clustered, 1¼ inches long, an inch or more wide, and decidedly angled and compressed. Its husk is very thin, sometimes splitting only to the middle. The nut is four-angled, flattened, containing a very bitter seed.

The **wood** is heavy, softer than other hickories, brittle, close-grained, and dark brown in color, with a thick zone of light colored or nearly white sapwood. It is used only for fuel. The wood of all the hickories is particularly short-lived when used in contact with the ground.

SOUTHERN WAXMYRTLE

(Myrica cerifera)

THIS wax-bearing tree attains a height of 40 feet, but in the Everglades region where it forms dense thickets is often only a shrub. It is found generally over the State. As a tree, the trunk is small, and the slender upright or spreading branches form a round-topped head. It is found largely in sandy swamp soils or ponds.



SOUTHERN WAXMYRTLE
Leaf, one-half natural size.
Fruit, natural size.

The **leaves** are broader toward the upper end, pointed, with narrow base, coarsely toothed above the middle, yellow-green above and orange-tinted below from the many small glands, or dots. They vary from 1 to 4 inches in length and from ¼ to ½ inch in width, and are fragrant with a balsam-like odor. The leaves persist till spring.

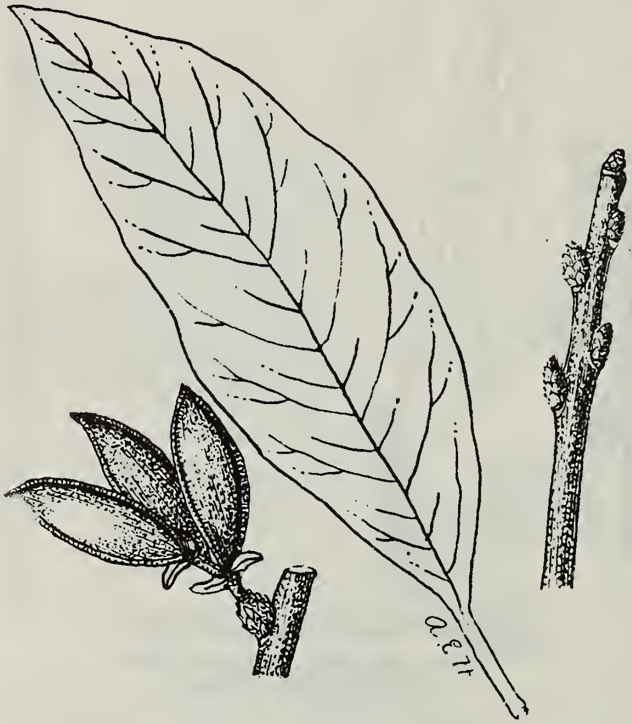
The **flowers** are of two kinds growing on separate trees, the female flower growing in close bunches. The **fruit** is round, about ⅛ inch in diameter, light green, and coated with a thick wax which makes a usable candle wax. The "berries" contain a small seed, and grow in close clusters on short stems.

The **wood** is light in weight, soft, brittle, of a dark brown color, and has no particular use.

FLORIDA CORKWOOD

(Leitneria floridana)

THIS lightest of all native woods in the United States grows in saline waters of the Gulf in the region of the Apalachicola River. It is a small tree reaching a height of 20 feet, or a shrub, depending upon the location and natural conditions. The base is usually swollen. From it a straight gradually tapering trunk rises, crowned with a loose open-topped head. The young branchlets are coated with hairs which later drop, leaving a smooth dark red-brown stem.



FLORIDA CORKWOOD
Leaf, one-half natural size.
Fruit, twice natural size.

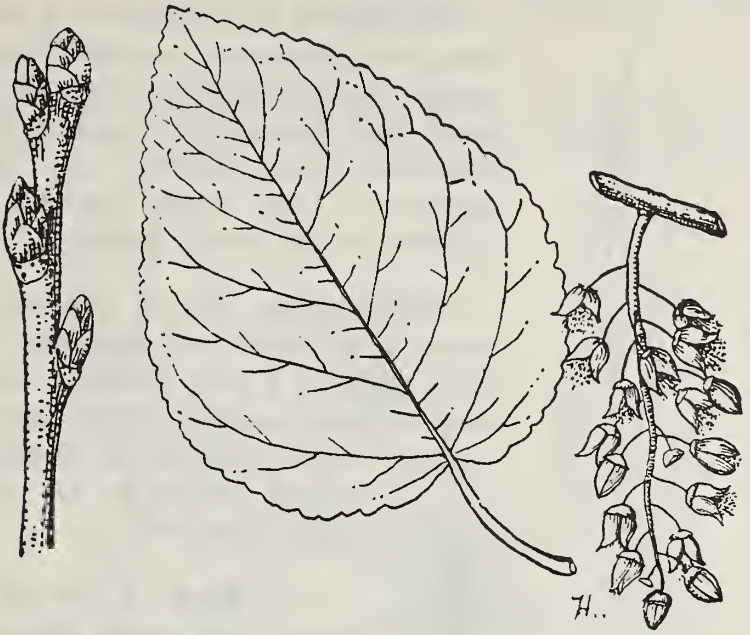
The **leaves** are from 4 to 6 inches in length and about 2 inches in width, borne on stems an inch or two long. The leaves are shiny above and usually scattered on the stem.

The **flowers** are in catkins of two kinds or sexes, the male about 1½ inches long, the female about ¾ inch long. Both kinds are borne on the same tree and appear about the first of March. The **fruit** is solitary or in clusters of 2 to 4, each about ½ inch long, and ripens when the leaves are about one-half grown. The **wood** is soft, exceedingly light, generally uniform in texture and of a pale yellow color. It has been used in place of cork for floats for fishing nets.

SWAMP POPLAR (Swamp Cottonwood)

(Populus heterophylla)

THIS is a tree of low, wet swamps and the borders of rivers, in the Atlantic coastal and Mississippi Valley regions. In Florida it is found over the northern part of the State. The seeds are carried far by winds and germinate on wet sandy soils. The tree attains a height of 70 to 90 feet and a diameter of 3 feet. The branches are usually short, forming a narrow, round-topped head, and the buds are resinous.



SWAMP POPLAR
Twig, three-quarters natural size.
Leaf, cne-half natural size.

The **leaves** are broadly ovate, 3 to 6 inches wide and 4 to 7 inches long, gradually narrowed at the tip and slightly rounded toward the base, usually finely toothed along the edges, dark green above, pale and smooth below; on rounded leaf-stems from 2 to 3 inches long.

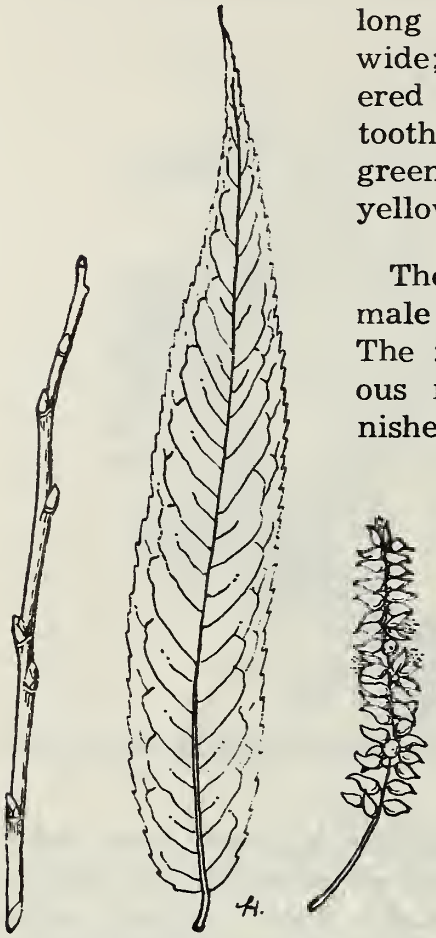
The **flowers**, which bloom in early spring, are in catkins, the female catkins few-flowered. The **fruit**, containing the tiny seeds supported by "cotton," is borne on female, or pistillate, trees, and the male, or staminate, flowers occur separately on other trees. The fruit ripens before the leaves are fully grown.

The **wood** is light and soft and, as lumber, requires special attention in drying to prevent its warping badly. It makes excellent paper pulp for printing half-tone illustrations, and in the markets of the North the lumber is coming to be increasingly used as a substitute for basswood.

BLACK WILLOW

(Salix nigra)

THE black willow is common along streams throughout the northern part of the State. It rarely comes to be over 50 feet in height and is frequently found growing singly or in clumps along the water courses. In winter the easily separable, bright reddish brown or golden, naked twigs are quite conspicuous.



BLACK WILLOW
Two-thirds natural size.

The **leaves** are from 2 to 5 inches long and less than one-half an inch wide; the tips are very much tapered and the entire margins finely toothed. The leaves are bright green on both sides, turning pale yellow in the early autumn.

The **flowers** are in catkins, the male and female on separate trees. The **fruit** is a pod bearing numerous minute seeds which are furnished with long silky down, enabling them to be blown long distances.

The **bark** is deeply divided into broad, flat ridges which separate into thick plate-like scales. On old trees it becomes very shaggy. In color it varies from light brown tinged with orange to dark brown or nearly black.

The **wood** is soft, light and not strong. A high grade of charcoal, used in the manufacture of gunpowder, is obtained from willow wood, and it is the chief wood used in the manufacture of artificial limbs.

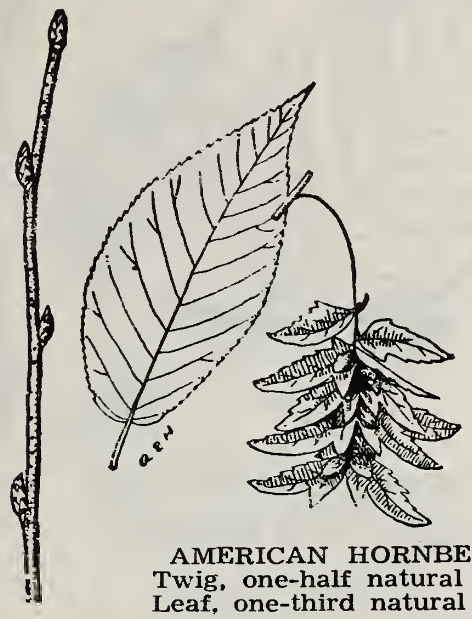
There are many species or kinds of willows not easily distinguished. They are of high value in checking soil erosion and waste along stream banks, for which purpose they should be more extensively grown.

AMERICAN HORNBEAM (Blue Beech)

(Carpinus caroliniana)

THE hornbeam, often known as ironwood and occasionally as blue beech or water beech, is a small, slow-growing, bushy tree with a spreading top of slender, crooked, or drooping branches. It is found in hammocks and other good soils in northern Florida and a little way south in the Peninsula. Its height is usually from 20 to 30 feet and its diameter 4 to 8 inches, although it sometimes grows larger.

The trunk is fluted with irregular ridges extending up and down the tree. The **bark** is light brownish gray to dark bluish gray in color, sometimes marked with dark bands extending horizontally on the trunk.



AMERICAN HORNBEAM
Twig, one-half natural size.
Leaf, one-third natural size.

The **leaves** are simple, alternate, oval, long-pointed double toothed along the margin, 2 to 4 inches in length. They resemble those of the black or sweet birch, but are smaller.

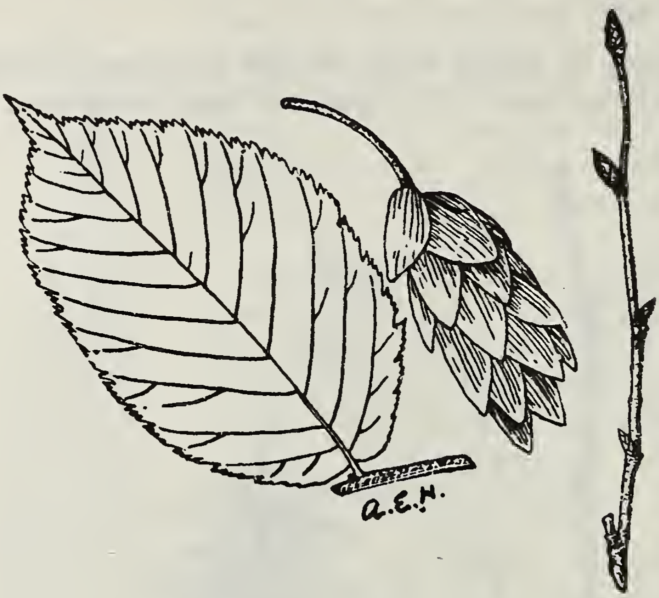
The **flowers** are borne in catkins separately on the same tree; the male catkin about 1½ inches long, the female about ¾ of an inch, with small leaf-like, three-lobed green scales. The **fruit** is a nutlet about ¼ of an inch long. It falls, attached to the leaf-like scale which acts as a wing in aiding its distribution by the wind.

The **wood** is tough, close-grained, heavy and strong. It is sometimes selected for use for levers, tool handles, wooden cogs, mallets, wedges, etc. The tree is of little commercial importance and often occupies space in the woods that should be utilized by more valuable kinds.

AMERICAN HOPHORNBEAM (Ironwood)

(Ostrya virginiana)

THE tree gets its common names from the qualities of its wood and the hop-like fruit. It is a small, slender, generally round-topped tree, from 20 to 40 feet high and 7 to 10 inches in diameter, or sometimes only a shrub. The top consists of long slender branches, commonly drooping toward the ends. It is found mostly in hammocks over the northern part of the State, extending somewhat southward.



AMERICAN HOPHORNBEAM
Twig, one-half natural size.
Leaf, one-third natural size.

The **bark** is mostly light brown or reddish brown, and finely divided into thin scales by which the tree, after a little acquaintance, can be easily recognized.

The **leaves** are simple, alternate, generally oblong with narrowed tips, sharply toothed along the margin, sometimes doubly toothed, from 3 to 5 inches long.

The **flowers** are of two kinds on the same tree; the male, in drooping catkins which form the previous summer, the female, in erect catkins on the newly formed twigs. The **fruit**, which resembles that of the common hop vines, consists of a branch of leafy bracts 1 to 2 inches long containing a number of flattened ribbed nutlets.

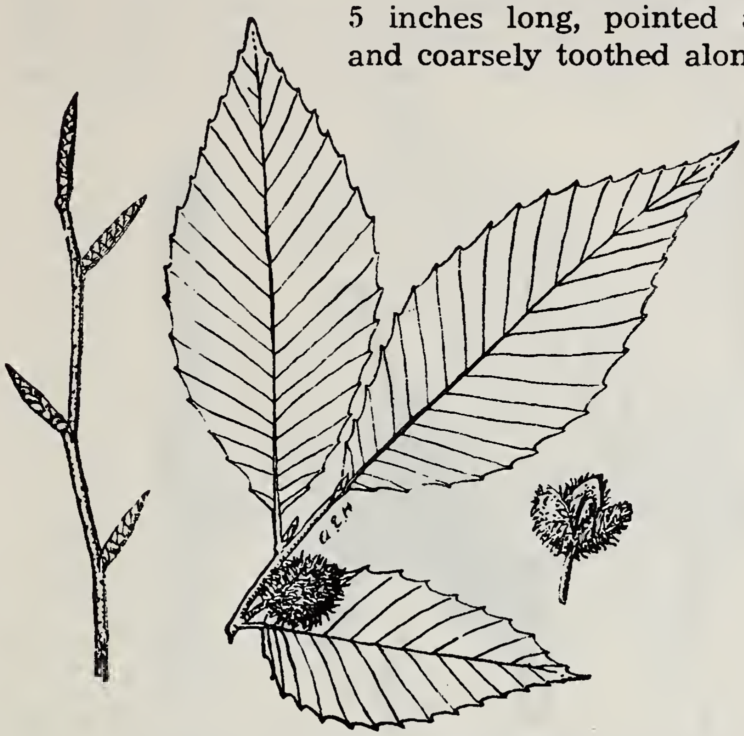
The **wood** is strong, hard, durable, light brown to white, with thick pale sapwood. Often used for fence posts, handles of tools, mallets and other small articles.

AMERICAN BEECH

(Fagus grandifolia)

THE beech occurs in alluvial soils in middle and western Florida. It is found scattered among other hardwood trees and sometimes makes small groups in pure stands. It drops its leaves in the autumn but is one of the most beautiful of all trees, either in summer or winter.

The simple, oval **leaves** are 2 to 5 inches long, pointed at the tip, and coarsely toothed along the margin. When mature, they are almost leathery in texture. The beech produces a dense shade. The winter buds are long, slender and pointed.



AMERICAN BEECH
One-half natural size

The **bark** is perhaps, the most distinctive characteristic, as it maintains an unbroken, light gray surface throughout its life. So tempting is this smooth expanse to the owner of a jackknife that the beech has been well designated the "initial tree."

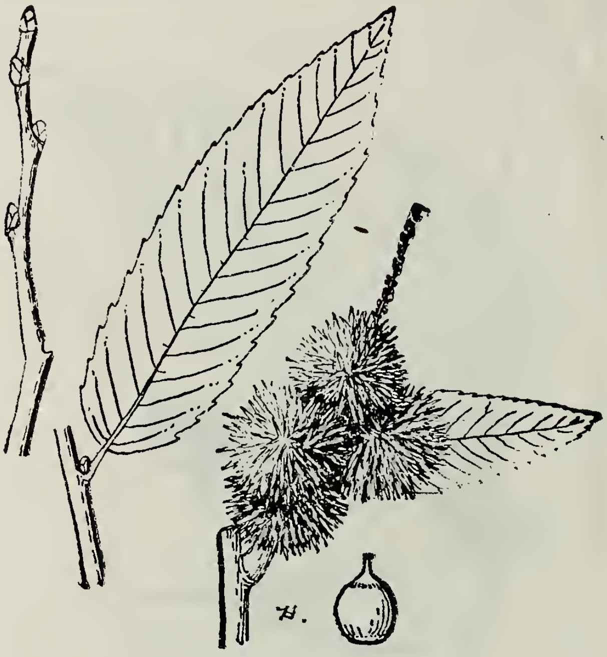
The little, brown, three-sided beech **nuts** are almost as well known as chestnuts. They form usually in pairs in a prickly burr. The kernel is sweet and edible, but so small as to offer insufficient reward for the pains of biting open the thin-shelled husk.

The **wood** of the beech is very hard, strong, and tough, though it will not last long on exposure to weather or in the soil. The tree is of no great economic importance as a lumber tree, though the wood is used to some extent for furniture, flooring, carpenters' tools, and novelty wares.

ASHE CHINKAPIN

(Castanea ashei)

THIS small tree or shrub occurs throughout the northern part of the State on sandy ridges and along the borders of swamps in low rich woods. It is usually under 6 inches in diameter and less than 20 feet high. The trunk is short and straight and bears a rounded head made up of slender, spreading branches. Sometimes the small trees, less than 10 feet in height, form dense thickets. This is the common chinkapin of the South Atlantic Coast.



ASHE CHINKAPIN

Twig, one-third natural size. Leaf, one-half natural size.

The **leaves, bark** and **fruit** resemble those of the common chestnut, and the fruit ripens in the late summer or fall. The nut, however, is borne singly in a burr that measures commonly only a little more than an inch in diameter. The nut is rounded, dark chestnut-brown, shiny, and the thin coat, lined inside with fine whitish hairs, contains a sweet kernel, which is prized for food.

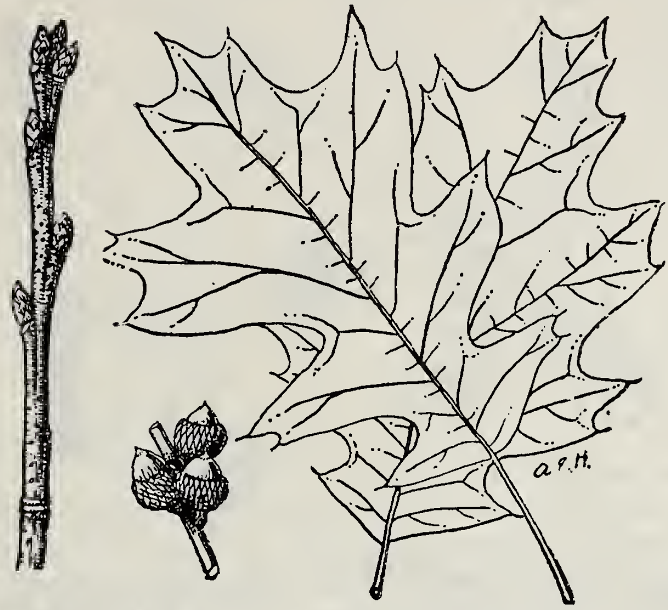
The brown **wood** is light, coarse-grained, and porous but hard, strong, and lasting in contact with the ground. It is suitable for fence posts, crossties, and fuel; but, because of its small size and comparative scarcity, it is of small economic importance.

In western Florida on the coast is a small tree of a different species, C. *floridana.*

BLACK OAK

(Quercus velutina)

THE black oak, sometimes farther north called yellow oak or yellow-barked oak, grows to be about 80 feet in height and 1 to 3 feet in diameter. It is found over the northern part of the State, most commonly in sandy soils and near or in swamps. The crown is irregular shaped and wide, with a clear trunk for 20 feet or more on large trees. The **bark** on the very young trunks is smooth and dark brown but soon becomes black, with deep furrows and rough broken ridges. The bright-yellow color and bitter taste of the inner bark, due to tannic acid, are distinguishing characteristics.



Twig, one-half natural size.

BLACK OAK
Leaf, one-third natural size.

The **leaves** are alternate, simple, 5 to 10 inches long and 3 to 8 inches wide, shallow or deeply lobed, the shape varying greatly. When mature, the leaves are dark green and shiny on the upper surface, pale on the lower, more or less covered with down, and with conspicuous rusty brown hairs in the forks of the veins.

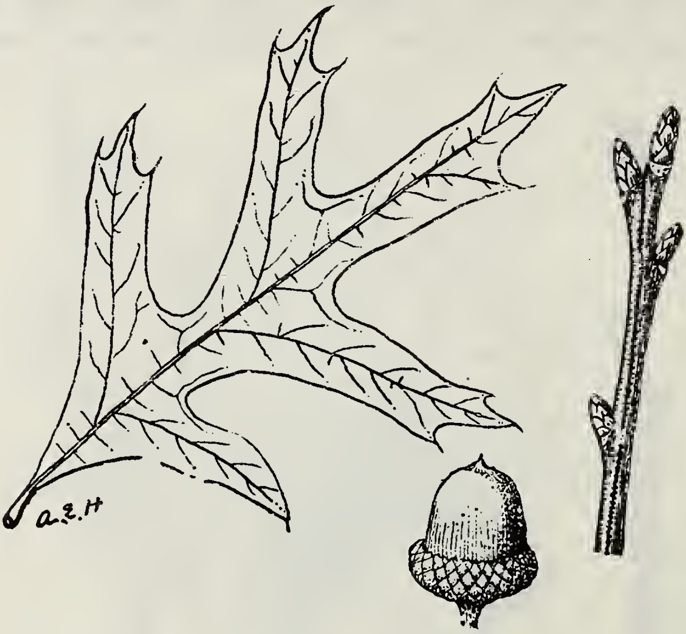
The **fruit** matures the second season. The light-brown nut is from one-half to 1 inch long, more or less hemispherical in shape, and from one-half to three-quarters enclosed in the thin, dark-brown, scaly cup. The kernel is yellow and extremely bitter.

The **wood** is hard, heavy, strong, coarse-grained and checks easily. It is a bright red-brown with a thin outer edge of paler sapwood. It is used for the same purpose as red oak, under which name it is put on the market. Its growth is rather slow.

TURKEY OAK (Sand Blackjack)

(Quercus laevis)

THIS oak is one of the characteristic trees associated with the pines over all of northern Florida and some distance into the Peninsula. It is abundant and reaches good size on dry sandy ridges and sandy bluffs and hammocks in the coast region. It is usually 20 to 30 feet high, but rarely reaches a height of 60 feet, with a trunk a foot and a half to 2 feet in diameter. It branches are stout spreading and more or less contorted, forming an open irregular but generally round-topped crown.



TURKEY OAK

Leaf, one-third natural size. Twig, two-thirds natural size.

The **leaves** are deeply divided into 3 or 5, or rarely 7 lobes, spreading and tapering from the base and average about 5 inches long as well as wide. They are thick and rigid, heavily veined, bright yellow-green and lustrous above, paler and somewhat downy on the under surface. They are very characteristic and should not be confused with those of any other tree.

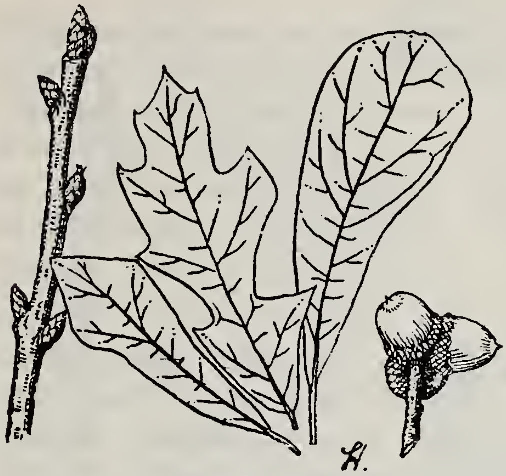
The **acorn** is short-stalked, dull, light brown in color, an inch long and three-fourths of an inch broad. It is oval in shape, full and rounded at both ends, and is enclosed for about a third of its length in a thin light red-brown cup covered by rounded scales that extend above the rim of the cup and down over part of the inner surface.

The **wood** is heavy, hard, strong, rather close-grained and light brown in color, tinged with red. It is used largely for fuel, but is cut to some extent for lumber and used for general construction.

WATER OAK

(Quercus nigra)

THE water oak is found native in sandy soils, along the borders of swamps and streams, and on bottomlands, over northern and upper central Florida. It has been widely planted in the Southern States along streets and in parks as a shade tree. When fully grown this tree reaches a height of about 95 feet and a diameter of from 1 to over 3 feet. The trunk is shapely.



WATER OAK
Leaf, one-third natural size.
Twig, one-half natural size.

The **bark** is smooth, light brown tinged with red, and has many smooth thin scales over the surface. The water oak can be most readily distinguished from the willow oak — a close associate, but longer-lived — by the difference in the general shape and size of the leaves.

The **leaves** are simple, quite variable in shape, mostly oblong, broader near the point, and narrower at the base, giving a wedge-shaped effect. They are usually slight 3-lobed at the outer end, thin, and of a dull bluish green color, paler below than above; mostly smooth, and usually 2 to 3 inches long and 1 to 2 inches wide; they remain green for some time and gradually fall from the tree during the winter.

The **flowers** appear in April when the leaves are beginning to unfold. The **fruit,** or acorn, matures at the end of the second season. The acorn is from one-half to two-thirds of an inch in length and nearly as broad, light brown or yellowish brown, and often striped, enclosed at the base only in a thin saucer-shaped cup.

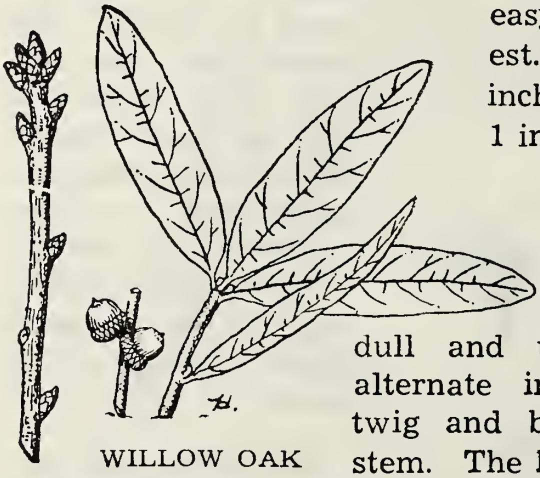
The **wood** is heavy, hard, strong, light brown in color, with lighter-colored sapwood. It is not used to a great extent as lumber, but the trees are cut and utilized for piling, crossties and fuel.

WILLOW OAK

(Quercus phellos)

THE willow oak, often called water oak, occurs generally over northern Florida and somewhat southward. It is a tree of the lowlands and along the borders of rivers and swamps, but sometimes also on rich sandy uplands. It is a beautiful and long-lived tree, and desirable for roadside, lawns and parks, for which it has been widely planted.

The slender willow-like **leaves**, on a tree whose habit of growth is manifestly that of an oak, make the tree easy to identify in the forest. The leaves are 2 to 4 inches long and one-half to 1 inch wide, with smooth or slightly wavy margin, bristle-pointed, smooth, light green and shiny above, but dull and usually smooth below; alternate in arrangement on the twig and borne on a short stout stem. The **bark** is generally smooth and of a reddish brown color; with age, the bark becomes slightly roughened and divided by narrow ridges.



WILLOW OAK
Twig,
one-half natural size.
Leaf,
one-third natural size.

The small **acorns**, closely set along the stem, mature at the end of the second year. The nut is a light-brown hemisphere, about one-half an inch in diameter, its base scarcely enclosed in the shallow, reddish brown cup. The nuts are eaten as food by bluejays, grackles ("black birds"), and several other species of birds, as well as by rodents.

The **wood** is not separated commercially from other species in the red oak group. It is heavy, strong, rather coarse-grained, light brown tinged with red, and not durable when exposed to the weather. It is used locally for crossties, bridge planks, barn sills, and general construction.

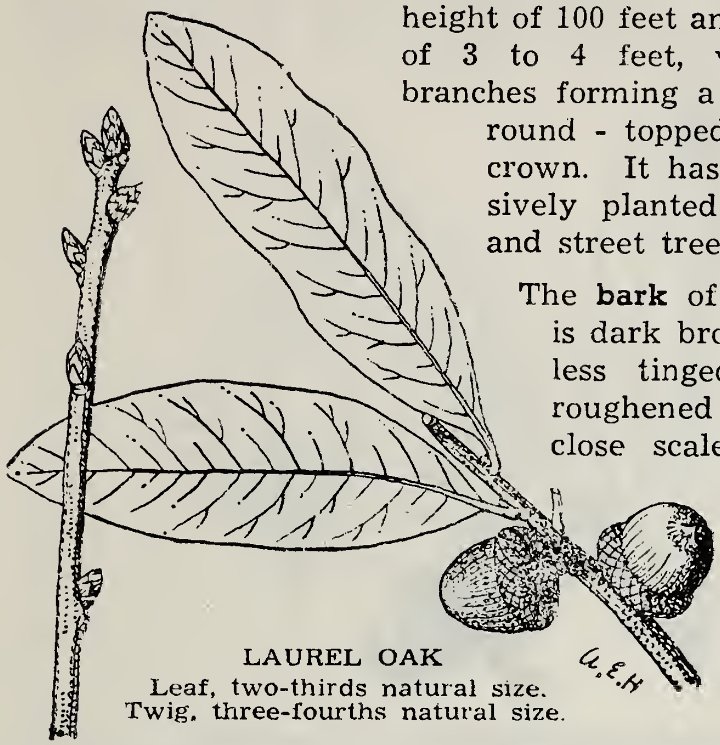
LAUREL OAK

(Quercus laurifolia)

THE laurel oak is one of the more common and the most beautiful of all the oaks. It is generally distributed and found on the banks of streams and in or near swamps and rich hammocks over the State except in the extreme southern portion.

It is a large tree, reaching a height of 100 feet and a diameter of 3 to 4 feet, with slender branches forming a broad dense round - topped shapely crown. It has been extensively planted as a shade and street tree.

The **bark** of young trees is dark brown, more or less tinged with red, roughened by small close scales, becoming on older trees nearly black and broken into broad flat ridges.



LAUREL OAK
Leaf, two-thirds natural size.
Twig, three-fourths natural size.

The **leaves** are from 2 to 6 inches long and ¾ to over an inch wide. They bear the same general resemblance to the laurel that the willow oak does to the willow, and should not be confused with this latter tree because of their greater width in proportion to their length. They are thin and very shiny above, lighter green below and with less gloss. They fall during the early part of the spring and for a few weeks the trees are bare. The tree may be distinguished from the live oak, which it somewhat resembles, by the absence of gray down or fuzz on the under side of the leaves.

The **flowers** which appear early are distinctly red.

The **acorn,** which matures at the end of the second year, is dark brown in color and about half an inch long. It is enclosed for about a fourth of its length by a thin saucer-shaped cup covered by thin light red-brown scales.

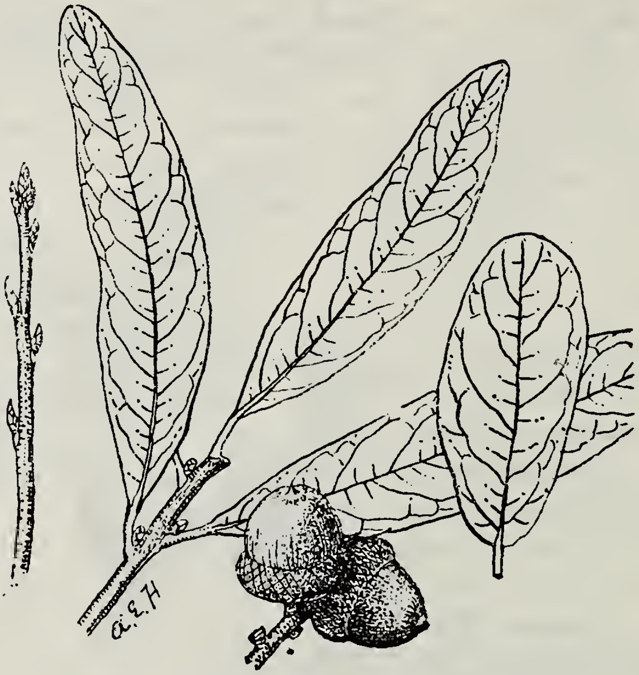
The **wood** is heavy, hard, and coarse-grained. It checks in drying and is used only for fuel.

BLUEJACKET OAK (Upland Willow Oak)

(Quercus cinerea)

THE name by which this small inferior but abundant oak is known varies widely. Some know it only as "Turkey" oak, others "blue jack," while the best name for the whole coastal plain seems to be upland willow oak.

It is found all over the State as far south as the Everglades, growing in sandy barrens and sandy ridges. One of its most common tree associates is the true turkey oak (often called "black jack") described on page 32. The tree is usually not over 15 to 20 feet in height by 6 inches in diameter.



BLUEJACKET UPLAND WILLOW OAK
One-third natural size.

The **leaves** are narrowly oblong, thick, firm in texture, from 2 to 5 inches in length and up to 1½-inch in width, smooth on the edges, pale bluish green above, and gray and wooly beneath. The leaves should help to distinguish the tree from all other oaks. The leaves drop off in the autumn.

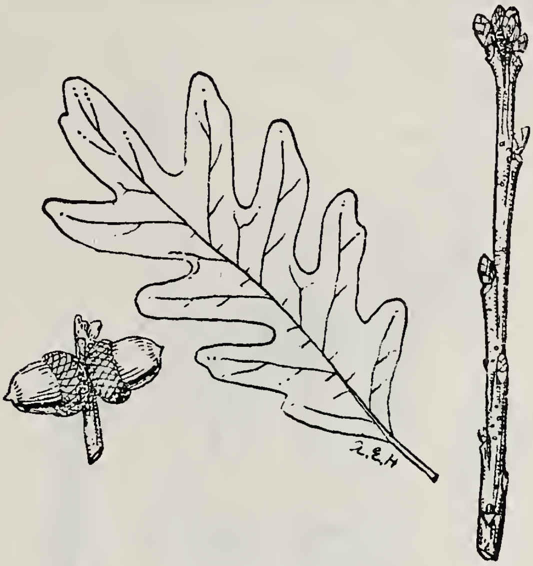
The **fruit** is an acorn, produced in abundance over the tree. It is oval, about ½ inch long, striped with dark bands vertically, downy on the surface, enclosed for less than one-half its length in a thin, rather flat "saucer."

The **wood** is hard, strong, close-grained, reddish brown, and is little used.

WHITE OAK

(Quercus alba)

WITHIN its natural range, which includes practically the entire eastern half of the United States, the white oak is one of the most important timber trees. It commonly reaches a height of 60 to 100 feet and a diameter of 2 to 3 feet; sometimes it becomes much larger. In Florida, it is found in good soils in the middle and western parts. When grown in a dense stand it has a straight continuous trunk, free of side branches for over half its height. In the open, however, the tree develops a broad crown with far-reaching limbs. Well-grown specimens are strikingly beautiful.



WHITE OAK

Twig, one-half natural size. Leaf, one-quarter natural size.

The **leaves** are alternate, simple, 5 to 9 inches long and about half as broad. They are deeply divided into 5 to 9 rounded, finger-like lobes. The young leaves are a soft slivery gray or yellow or red while unfolding, becoming later bright green above and much paler below. The **fruit** is an acorn maturing the first year. The nut is three-quarters enclosed in the warty cup. It is relished by hogs and other live stock. The **bark** is thin, light ashy gray and covered with loose scales or broad plates.

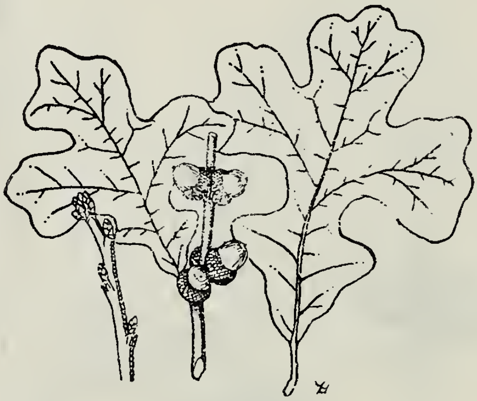
The **wood** is useful and valuable. It is heavy, strong, hard, tough, close-grained, durable, and light brown in color. The uses are many, including construction, shipbuilding, tight cooperage, furniture, wagons, implements, interior finish, flooring, and fuel.

POST OAK

(Quercus stellata)

THE post oak is usually a medium-sized tree, with a rounded crown, commonly reaching a height of 50 to 80 feet and a diameter of 1 to 2 feet, but sometimes considerably larger. It occurs over northern Florida often in the dry woods and on the poorer soils, but is most abundant on the poorer soils of the middle districts.

The **bark** is rougher and darker than the white oak and broken into smaller scales. The stout young twigs and the leaves are coated at first with a thick light-colored fuzz which soon becomes darker and later drops away entirely.



POST OAK
One-third natural size.

The **leaves** are usually 5 to 8 inches long and nearly as broad, deeply 5-lobed with broad rounded divisions, the lobes broadest at the ends. They are thick and somewhat leathery, dark green and rough on the upper surface, lighter green and rough hairy beneath. The small-leaved post oak is common and grows on dry longleaf pine lands.

The **flowers**, like those of the other oaks, are of two kinds on the same tree, the male in drooping, clustered catkins, the female inconspicuous. The **fruit** is oval acorn, one-half to 1 inch long, set a rather small cup which may or may not be stalked.

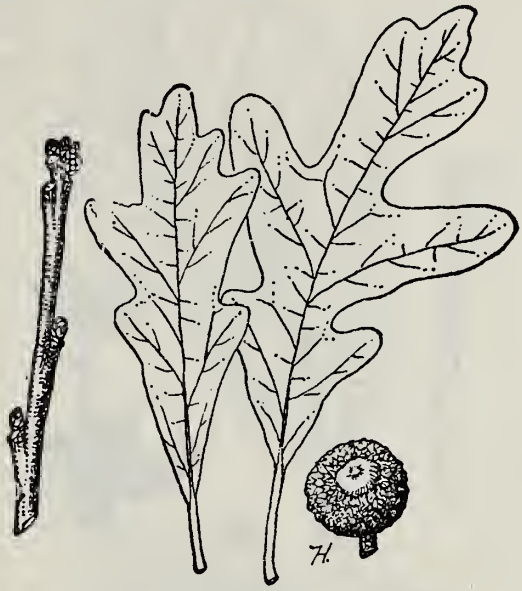
The **wood** is very heavy, hard, close-grained, light to dark brown, durable in contact with the soil. It is used for crossties and fence posts, and along with other oaks of the white oak class for furniture and other purposes.

OVERCUP OAK

(Quercus lyrata)

THE overcup oak, sometimes known as swamp post oak, is a large tree with small, often pendulous branches rarely reaching a height of 100 feet and a diameter of 3 feet. It occurs in river bottoms and rich low grounds of the Coastal Plain and the Mississippi basin, but is nowhere very abundant. In Florida, it is found through the northern portion, where it is in mixture with a wide variety of hardwoods.

The **leaves** are 3 to 7 inches long, 1 to 4 inches broad, oblong, wider towards the point, narrowed at the base, dark green above, whitish and downy beneath, with 7 to 9 distinct, deep, pointed lobes. They frequently turn to a bright scarlet or to scarlet and orange in the fall. The **bark** is rough, flaky, gray tinged with red.



OVERCUP OAK
Leaf, one-third natural size.
Twig, two-thirds natural size.

The **flowers,** open in April with the unfolding of the leaves. The acorn, or **fruit,** ripens the first year. It is thoroughly characteristic of the species. The large rounded or somewhat flattened acorn, one-half to 1 inch long, is nearly covered by the ovate or nearly spherical cup, which is thickened at the base but gradually grows thinner to the thin, often irregularly split, margin of the cup. The name of the tree comes from this characteristic.

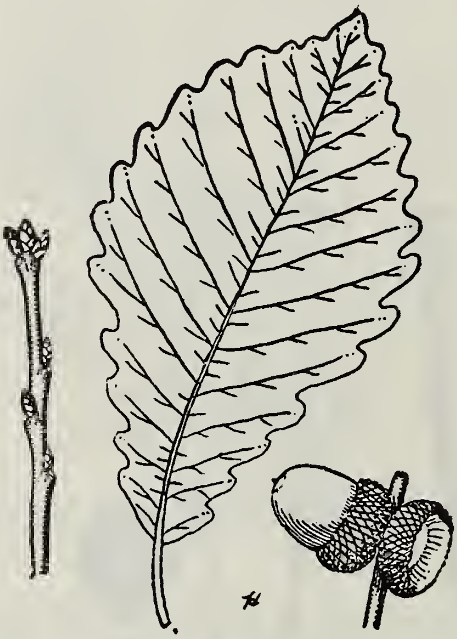
The **wood** is heavy, hard, strong and durable and is used for the same purposes as that of white oak.

SWAMP CHESTNUT OAK (Basket Oak)

(Quercus prinus)

IN the appearance of its bark and branches, this oak closely resembles the ordinary white oak, but may be distinguished by means of the leaf and acorn. The tree attains heights of about 100 feet and diameters of about 4 feet. It grows in the shallow river swamps and wet woods of Florida above the northern part of the peninsula.

The **leaves** are oval, broader towards the point and notched on the edge somewhat like the chestnut oak. They vary from 4 to 8 inches in length, are downy beneath and turn a rich crimson in the fall. The **bark** is a very light gray, often tinged with red, and on old trees is broken into broad flakes or divided into strips.



SWAMP CHESTNUT OAK
Leaf, one-third natural size.
Twig, one-half natural size.

The acorn, or **fruit** attains a diameter of more than an inch and a length of 1½ inches.

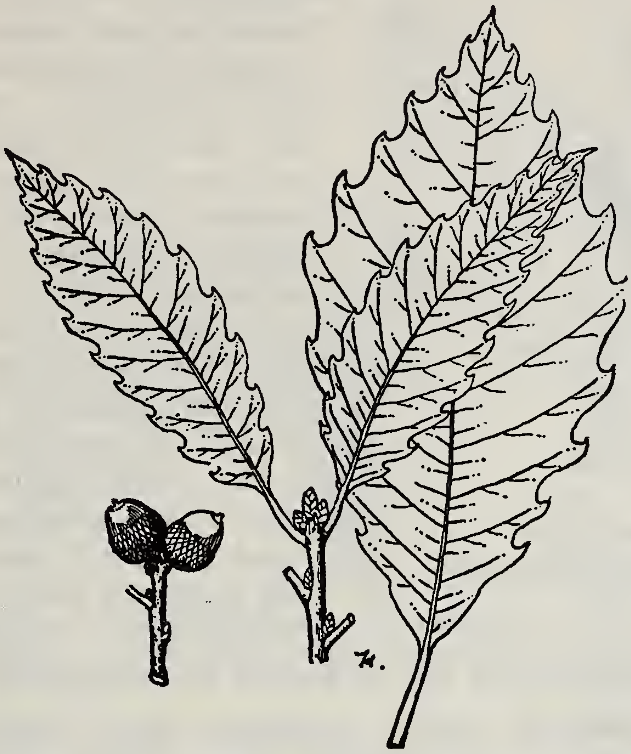
The acorn, which is a bright shiny brown and set in a rather shallow cup, is considerably larger than that of the white oak. It is frequently eaten by cows and this fact gives the tree one of its common names.

The **wood** is heavy, hard, tough, strong, and takes an excellent polish. It is used in manufacturing lumber, veneer, boards (shakes), tight cooperage; for fuel and fence posts; and extensively for making baskets.

CHINKAPIN OAK ('Pin Oak)

(Quercus muhlenbergii)

THIS oak, which is an excellent timber tree, occurs in western Florida, although scattered and nowhere in abundance. It grows on various classes of soils, and in all moisture conditions except in swamps, and is a very tenacious tree on shallow, dry soil. The **bark** is light gray, and breaks up into short narrow flakes on the main trunk and old limbs.



CHINKAPIN OAK
One-third natural size.

It reaches a height of 50 to 80 feet. The straight shapely trunk bears a round-topped head composed of small branches, which makes it an attractive shade tree.

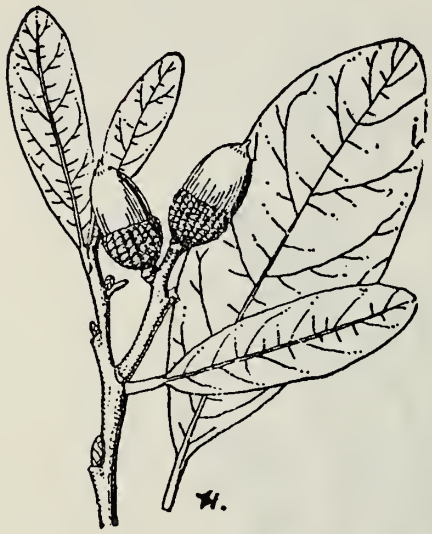
The **leaves** are oblong, 3 to 7 inches in length, 1½ to 3 inches wide, and equally toothed or notched on the edges, resembling the leaves of the chestnut oak. The **fruit**, which ripens in the fall of the first season, is light to dark brown when ripe, and edible if roasted. This acorn is from one-half to nearly an inch long, usually less than one inch in diameter and is set in a shallow cup attached without a stalk or by a very short stalk.

The **wood** is heavy, very hard, tough, strong, durable, and takes an excellent polish. It is used in manufacturing lumber and timbers, crossties, fence-posts, and for fuel. A portion of the lumber no doubt goes into furniture.

LIVE OAK

(Quercus virginiana)

THE live oak extends from southeastern Virginia through the lower Atlantic and Gulf coastal regions into Texas and Mexico. All of Florida is included except some of the Keys. It is a tree of striking character from its wide-spreading habit, sometimes reaching more than 100 feet in spread; with a short, stout trunk, 3 to 4 feet in diameter, dividing in several large limbs with nearly horizontal branches, forming a low, dense, round-topped head. Its height is commonly from 40 to 50 feet. The **bark** on the trunk and large branches is dark brown tinged with red, and slightly furrowed. It grows to largest size on the rich hammocks and low ridges near the coast and only a few feet above the water level. In very sandy soil it is a tall shrub. It is one of the most desirable trees of the Coastal Plain for road-side and ornamental planting. It is of moderately slow growth but long-lived and handsome.



LIVE OAK
Two-thirds natural size.

The **leaves** are simple, evergreen, thick, leathery, oblong, smooth above, pale and silvery white beneath, and edges slightly rolled under; from 2 to 4 inches in length and 1 to 2 inches in breadth.

The **fruit** is an acorn about an inch long and one-third inch wide, borne on a long stem or peduncle; it is oblong, dark brown and lustrous, and set in a top-shaped, downy cup of a light reddish brown color.

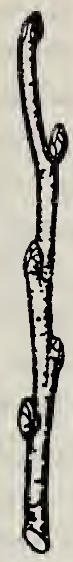
The **wood** is very heavy, hard, strong and tough, light brown or yellow, with nearly white, thin sapwood. It was formerly largely used, and still is occasionally, for ships' knees in building wooden ships.

AMERICAN ELM (White Elm)

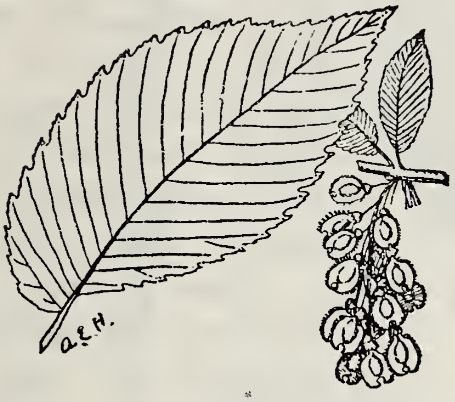
(Ulmus americana)

THE famous shade tree of New England, whose range, however, extends to the Rocky Mountains and southward to Texas. In low ground and on river banks it is found in Florida to the Everglades. It reaches an average height of 60 to 70 feet and a diameter of 4 to 5 feet. The **bark** is dark gray, divided into irregular, flat-topped thick ridges, and is generally firm, though on old trees it tends to come off in flakes. An incision into the inner bark will show alternate layers of brown and white.

The **leaves** are alternate, simple, 4 to 6 inches long, rather thick, somewhat one-sided, doubly toothed on the margin, and generally smooth above and downy below. The leaf veins are very pronounced and run in parallel lines from the midrib to leaf-edge.



Twig, one-half natural size.



AMERICAN OR WHITE ELM
Leaf, one-third natural size.

The **flowers** are small, perfect, greenish, on slender stalks sometimes an inch long, appearing before the leaves in very early spring. The **fruit** is a light green, oval shaped samara (winged fruit) with the seed portion in the center and surrounded entirely by a wing. A deep notch in the end of the wing is distinctive of the species. The seed ripens in the spring and by its wing is widely disseminated by the wind.

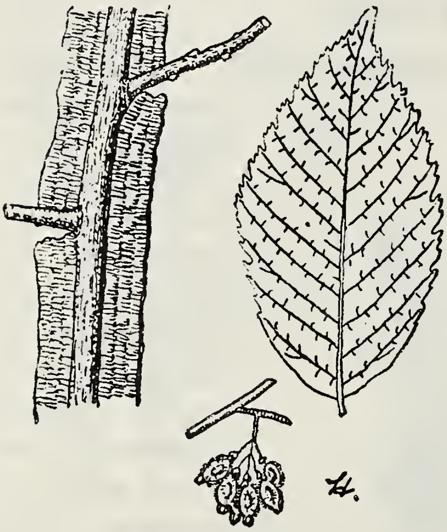
The **wood** is heavy, hard, strong, tough, and difficult to split. It is used for hubs of wheels, saddle trees, boats and ships, barrel hoops, and veneer for basket and crates.

Because of its spreading fan-shaped form, graceful pendulous branches, and long life, the white elm justly holds its place as one of the most desirable shade trees of the Northern United States.

WINGED ELM

(Ulmus alata)

THE winged elm gets its common name from the thin corky growth, or "wings," usually found on the smaller branches. It occurs scattered generally over the northern and middle parts of the State, mostly in the better soils with plenty of moisture, such as near streams. It grows rapidly in moist situations, and at the same time is a tree that is planted along roadsides in dryer locations. It is comparatively free from disease, though not notably long-lived. This elm is a medium-sized tree of 40 to 50 feet in height and rarely as large as 2 feet in diameter. It forms a rather open, round-topped head. The **bark** is light brown, tinged with red, and divided into irregular flat ridges and fissures.



WINGED ELM
Two-thirds natural size.

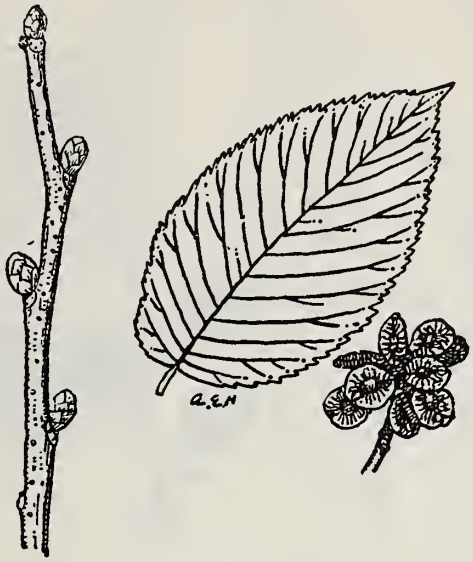
The **leaves** are simple, alternate, 2 to 4 inches long and 1 to 2 inches broad, coarsely double-toothed, thick, dark green and smooth above, and pale and softly downy below. They are smaller than those of any other elm native in the State. The **flowers** appear in early spring, long before the leaves unfold. The **fruit** ripens in the spring about the time the leaves appear; it is winged, tipped with 2 small incurved awns, or beaks, oblong, reddish brown, about one-third of an inch long, with a long slender stalk at the base, and covered with white hairs.

The **wood** is very similar to that of the other elms—heavy, hard, strong and difficult to split. It is occasionally used for hubs and mauls. Formerly, rope made of the inner bark was used for binding the covers to cotton bales.

SLIPPERY ELM (Red Elm)

(Ulmus fulva)

THE slippery elm, or red elm, occurs sparingly in the moist woods in the western part of the State. It is found principally on the banks of streams and on low hillsides. It is a tree of small to moderate size, but noticeably wide-spreading. It is usually less than 40 feet in height and 6 inches in diameter, although trees of larger dimensions are occasionally found.



SLIPPERY ELM
Twig, one-half natural size.
Leaf, one-third natural size.

The **bark** on the trunk is frequently 1 inch thick, dark grayish brown, and broken by shallow fissures into flat ridges. The inner bark is used to some extent for medicinal purposes, as it is fragrant and, when chewed, affords a slippery, mucilaginous substance, whence the tree gets its name.

The **leaves** are simple, alternate on the stem, 4 to 7 inches in length, sharp-pointed, their bases unsymmetrical, doubly-toothed on the edges, thick, dark green, and rough on both sides.

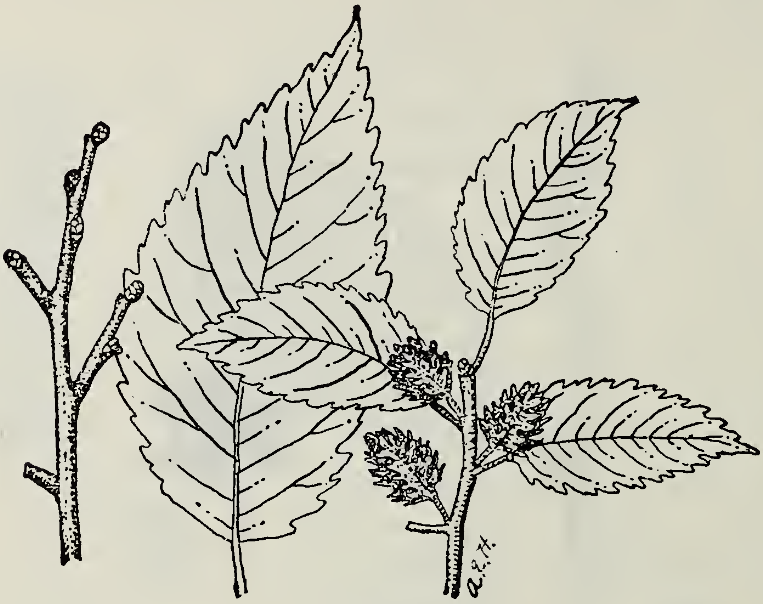
The **fruit** consists of a seed surrounded by a thin, broad, greenish wing, about one-half an inch in diameter; the flowers appear in early spring and the fruit ripens when the leaves are about half-grown.

The **wood** is close-grained, tough, strong, heavy, hard, moderately durable in contact with the soil. It is used for fence posts, crossties, agricultural implements, ribs for small boats and for some other purposes.

WATERELM (Planer Tree)

(Planera aquatica)

THE water elm or planer tree is a tree of swamps, where it is usually found growing in water, often associated with the bald cypress and tupelo gum, in the northern portion of the State. It forms a small spreading tree with a flat head, seldom over 35 feet high and with a maximum trunk diameter of 18 inches.



WATERELM
Nearly natural size.

The **bark** is light brown, only about one-quarter inch thick, falling away in large scales. The young twigs are slender, reddish brown, becoming gray.

The **leaves** resemble those of the small-leaved elms. They are 2 to 2½ inches long, three-quarters to 1 inch wide on short petioles, dull dark green above and paler on the lower surface with yellowish veins.

The **flowers** appear with the leaves in March or early April. The small flowers are sometimes normal and sometimes the male and female flowers are borne separately on the same tree. The **fruit** is a peculiar ovoid structure about three-eighths of an inch long, consisting of a nutlike structure covered with soft and very irregular winglike processes which grow out from the tubercles on the ovary.

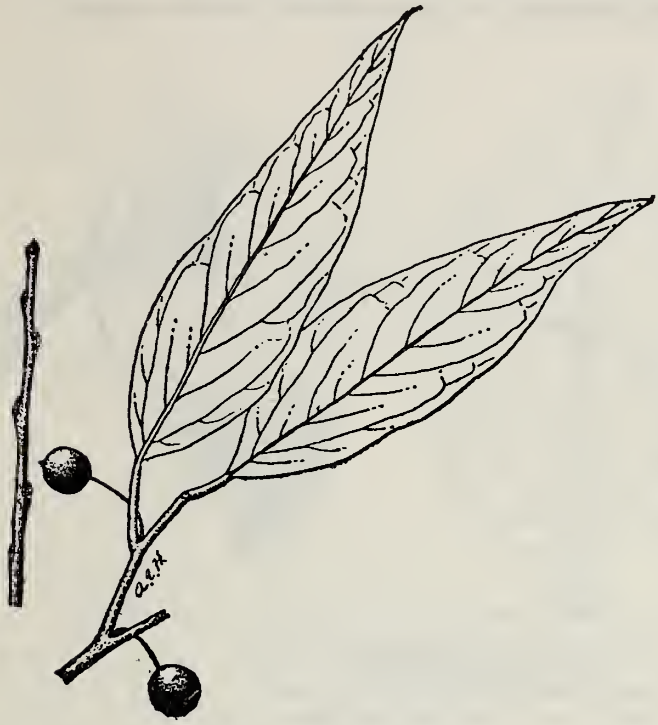
The **wood** is light brown, coarse grained and soft, very light in weight and has a broad zone of nearly white sapwood. It has no economic value.

SUGAR HACKBERRY (Sugarberry)

(Celtis laevigata)

THE southern hackberry or sugarberry is the most widely distributed hackberry in the State. It becomes a large tree 60 to 80 feet high with a trunk up to 2 feet in diameter. It is found chiefly in hammocks and the banks of streams practically over the whole State. The **bark** is one-half to three-quarters of an inch thick, pale gray and covered with many prominent warty projections.

The **leaves** are thin and smooth, light green on both surfaces or slightly paler beneath, 2½ to 5 inches long and ¾ to 1½ inches wide, without teeth on the margin, or with only a few toward the long pointed apex.



SUGAR HACKBERRY
Leaf, and Fruit, one-half natural size.
Twig, two-thirds natural size.

The **flowers** are small and inconspicuous, greenish or cream-colored, and of two kinds, appearing about April. The **fruit** is a round drupe or "berry" ripening in September, orange-red or dark purple, one-quarter inch in diameter. The sweet character of the seed has given rise to the name sugarberry and makes it sought as food by birds and animals.

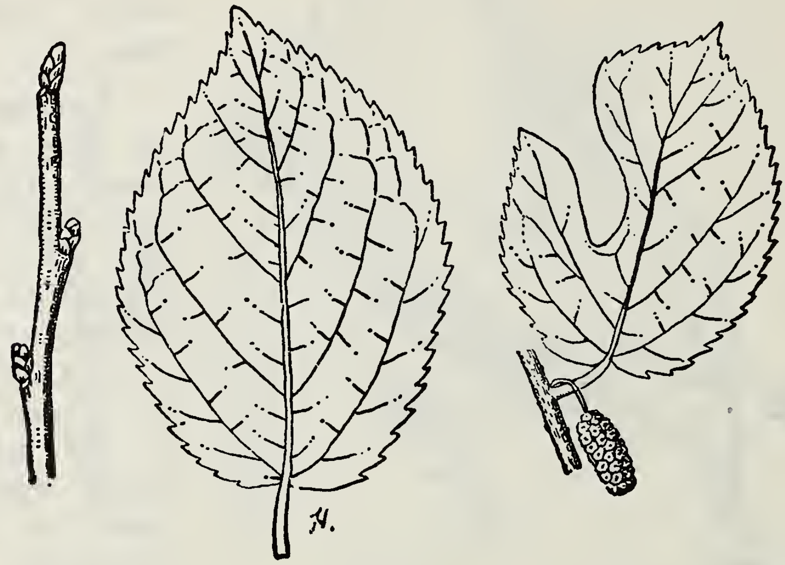
The **wood** is rather soft, weak, light yellow and is used occasionally for flooring and furniture, but chiefly for fuel.

The Georgia hackberry *Celtis georgiana* Small (*Celtis pumila* var. *georgiana* Sarg.) a small tree or shrub is found on sandy or rocky river banks in middle and western Florida. It has smaller leaves, short leaf-stalks, the leaves dark green, rough on the upper surface, paler and slightly hairy on the lower surface.

RED MULBERRY

(Morus rubra)

THE red mulberry occurs nearly throughout the State. It prefers rich soils and is nowhere abundant. It is commonly called mulberry as there are no other native species. The white mulberry and black mulberry, which are sometimes found in waste places, are introduced species which have to some extent become naturalized. The red mulberry is a small tree, rarely 50 feet high and 2 feet in diameter, often growing in the shade of larger trees.



RED MULBERRY
Twig, two-thirds natural size.
Leaf, one-third natural size.

The **bark** is rather thin, dark grayish brown, peeling off in long narrow flakes.

The **leaves** are alternate, thin, rounded or somewhat heart-shaped, toothed, pointed, 3 to 5 inches long, rough hairy above and soft hairy beneath. Often some of the leaves, especially on young trees and thrifty shoots, are mitten-shaped or variously lobed.

The **flowers** are of two kinds, on the same or different trees, in long drooping catkins, the female catkins shorter, appearing with the leaves. The **fruit** is dark red or black, and resembles a blackberry; however, a stalk extends through it centrally, and it is longer and narrower. The fruit is sweet and edible and greatly relished by birds and various animals.

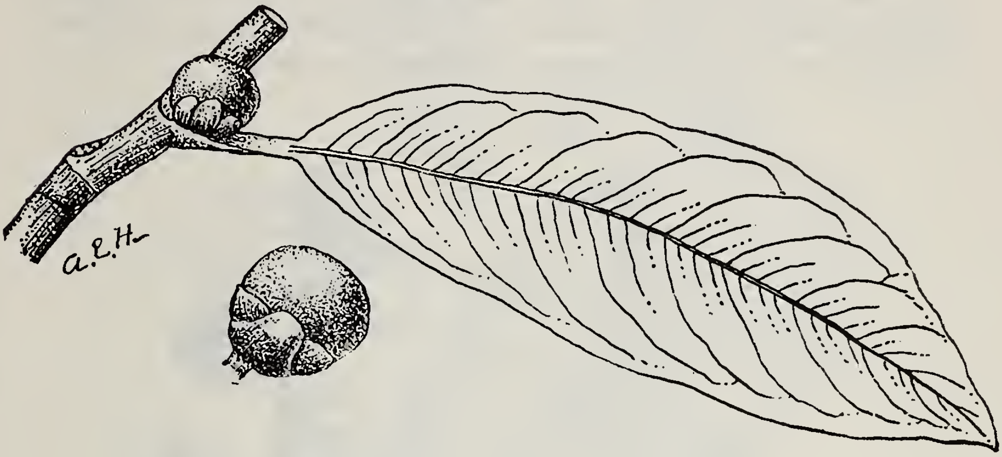
The **wood** is rather light, soft, not strong, light orange-yellow, very durable in contact with the soil. It is chiefly used for fence-posts. The tree might be planted for this purpose and to furnish food for birds.

FLORIDA STRANGLER FIG

(Ficus aurea)

IN the lower part of the Peninsula and Keys, on rich hammocks grow two native figs as well as the common fig, which is a native of the Mediterranean region that has escaped from cultivation. About 600 species are known, mostly on the Pacific and Indian Ocean islands.

The native wild fig often starts as a vine but later attains a height up to 60 feet with a trunk up to 3 or 4 feet in diameter. The tree has a broad rounded top which sends down aerial roots that grow, thus extending the tree over large areas. The **bark** is smooth and light gray.



FLORIDA STRANGLER FIG
Leaf, fruit and twig, natural size.
Enlarged fruit.

The **leaves** are oblong and narrowed toward each end, 2 to 5 inches long by about 2 inches broad, thick and leathery. They are dull yellow-green and shiny above, and paler below. They remain green for two years.

The **flowers** are reddish purple, in the axils of the leaves The two kinds of flowers are borne on the same tree. The **fruit** is rounded and flattened, with thick reddish purple leaf-like appendages, called "receptacle." The thin flesh of the fruit is sticky.

The **wood** is light brown, very light, soft and weak, and surrounded by a wide band of lighter colored sapwood.

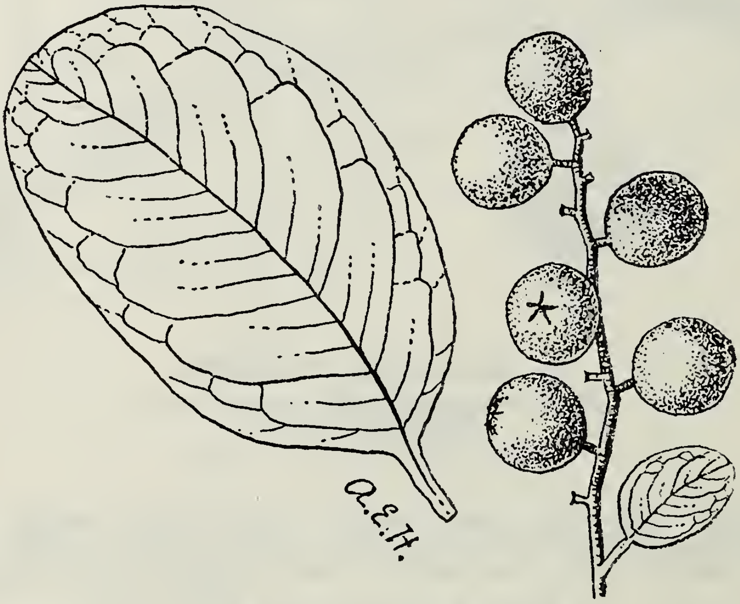
PIGEON SEAGRAPE (Pigeon Plum)

(Coccolobis floridana)

THE pigeon plum is the only tree member of the buckwheat family of plants. It is one of the largest and most abundant of the seacoast trees of tropical Florida, found most abundantly on the hammocks of the Keys. Its range is from Cape Canaveral around to Cape Sable.

It forms a tree up to 70 feet in height with a tall straight trunk up to 2 feet in diameter. The spreading branches form a dense round-topped head.

The **leaves** occur alternately on the stem, vary from oval to pear-shaped, thick and firm in texture, bright green above and paler below, 1½ to 3 inches long by about 2 inches wide, with a short stout leaf stalk.



PIGEON SEAGRAPE
Leaf, three-quarters natural size.
Fruit, natural size.

The **flowers** are small, in clusters about 2 inches in length along the terminal shoot, or twig. They open in early spring.

The **fruit** is a dark red to black "berry," singly along the terminal twig, each about one-third inch long and containing a thin-walled brown seed, or nutlet.

The **wood** is heavy, very hard, strong, brittle, reddish-brown or dark brown in color, with a wide band of lighter colored sapwood. It is sometimes used for cabinet work.

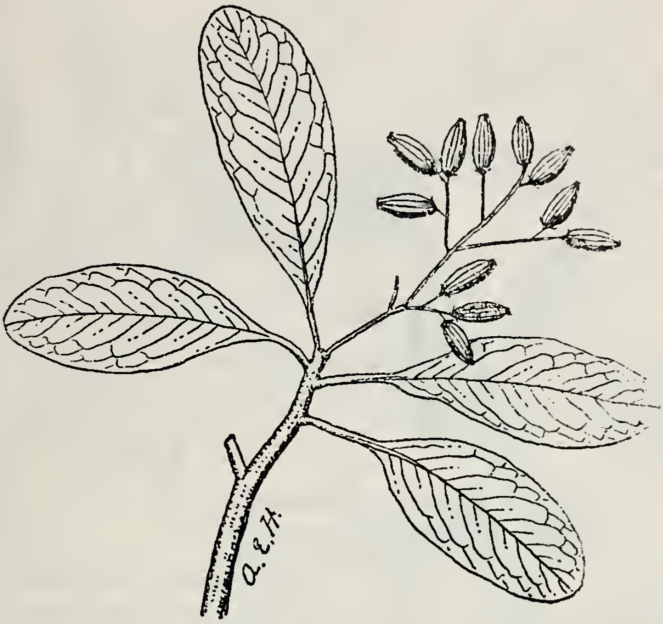
A closely related species, called "sea grape," has leaves that are wider than long and heart-shaped at the base, fruit in grape-like clusters and wood of a somewhat violet-tinged brown.

LONGLEAF BLOLLY

(Torrubia longifolia)

THE blolly is the sole representative in the United States of some 15 trees making up this tree family of tropical America. The group was named for a Spanish naturalist of the Eighteenth Century, Joseph Torrubia.

The blolly is found growing along brackish lagoons and on sea beaches from Cape Canaveral south over the Florida Keys. The tree reaches heights of 30 to 50 feet, with a trunk 15 to 20 inches in diameter, round-topped with stout spreading branches. It is often a much smaller tree. There are often many spur-like branches of a grayish or reddish brown color, with relatively large, raised, crescent-shaped leaf scars. The **bark** is thin and reddish brown in color. The **leaves** are oblong or pear shaped, rounded at the end and narrowed at the base, about 1½ inches long by ¾ inch wide, thick, firm, light green and smooth above, paler below.



LONGLEAF BLOLLY
Natural size.

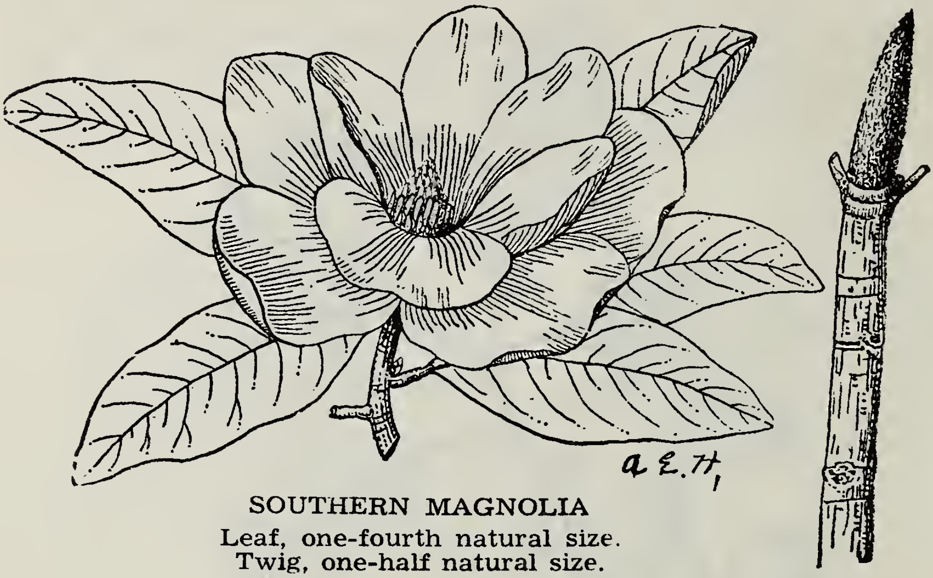
The **flowers** are borne in clusters (panicles) at the ends of the twigs, and greenish yellow or purplish in color. The **fruit** is fleshy, narrow and elongated, prominently 10-ribbed, about ¾ inch long, and bright red.

The yellow or brownish yellow **wood** is somewhat soft and weak but heavy, coarsegrained, and surrounded by a wide band of darker colored sapwood—an unusual variation in color for sapwood.

SOUTHERN MAGNOLIA (Evergreen Magnolia)

(Magnolia grandiflora)

THE magnolia or evergreen magnolia is one of the well-known trees in the State. No other in our forest excels it in the combined beauty of the leaves and the flowers. Occurring naturally in the rich hammock soils and on the border of river swamps and pine-barren ponds, it has been widely cultivated for its ornamental value. In its natural habitat, it attain heights generally of 60 to 80 feet and diameters of the trunk up to 4 feet. The dense pyramidal head, or crown, is made up of numerous small spreading branches and branchlets. Its range is over the State as far south in the peninsular as De Soto County.



SOUTHERN MAGNOLIA
Leaf, one-fourth natural size.
Twig, one-half natural size.

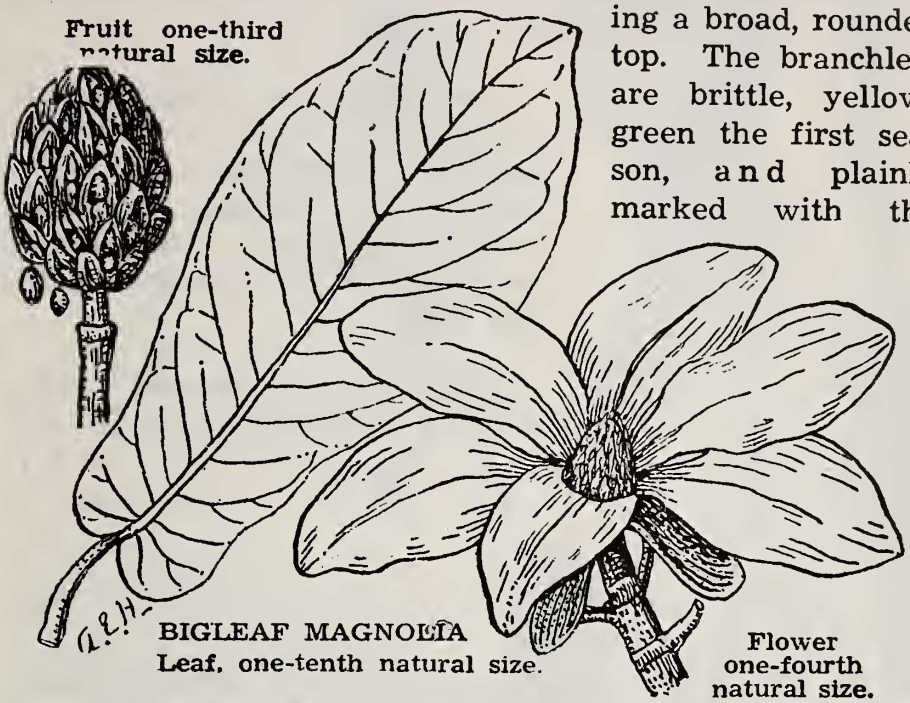
The **bark** is gray to light brown. The **leaves** are evergreen, thick, leathery, elliptical or oval, dark green and shiny above, rusty or silvery beneath, and mostly from 5 to 8 inches long and 2 to 3 inches wide, with prominent midribs. They remain on the tree for about 2 years.

The large handsome **flowers** appear at intervals during the summer. They are very attractive with their large pure white petals surrounding a splash of bright purple in the center (from the stamens) and their pleasing fragrance. The "sweet magnolia" of the south well deserves the place given it in story and song. The **fruit** consists of a rounded or oval head from 3 to 4 inches long containing many seed, each enclosed in a sheath. These open and display the bright red "berries" dangling on slender threads.

The **wood** is moderately heavy and hard, and of a creamy color. It is used somewhat for ornamental purposes, and considerably as firewood.

BIGLEAF MAGNOLIA
(White Cucumber Tree)
(Magnolia macrophylla)

As the name indicates, this is a magnolia with extraordinarily large leaves, and one rarely passes such a tree without it coming to one's attention. The tree is medium-sized, reaching a height of 30 to 40 feet, with a straight trunk up to 12 to 16 inches in diameter, ending in stout, noticeably wide-spreading branches, forming a broad, rounded top. The branchlets are brittle, yellow-green the first season, and plainly marked with the scars of the leaves that fall during the autumn. The tree is sparsely found over western and middle Florida in good soils with plenty of moisture.



Fruit one-third natural size.

BIGLEAF MAGNOLIA
Leaf, one-tenth natural size.

Flower one-fourth natural size.

The most conspicuous part of the tree, the **leaves**, are from 20 to 30 inches in length, 8 to 10 inches wide, oblong or pear-shaped, narrower near the base and there rounded or heart-shaped. They are bright green and smooth on the upper surface, light gray downy beneath, particularly along the large midrib and principal veins.

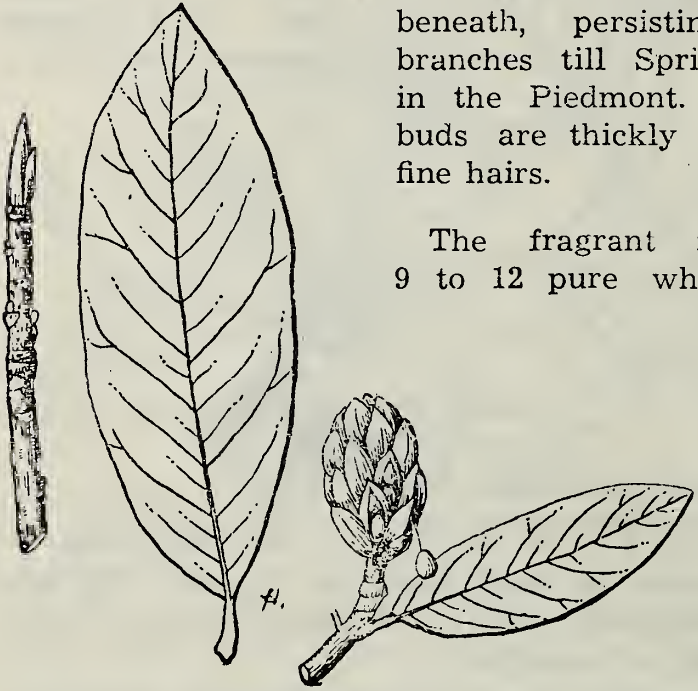
The **flowers** are large—9 to 12 inches across—borne on strong short stems, and fragrant. There are 6 creamy-white petals each marked with a rose-colored spot near the base. and plainly in two series with 3 petals in each row. The **fruit** is similar to that of the other magnolias, generally rounded, hairy, 2 to 3 inches long, and bright rose color when ripe. Each of the parts of the fruit contains a red flattened seed suspended by a thin thread, or filament.

The **wood** is hard but rather weak and light, close-grained, light brown, surrounded by a wide band of light yellow sapwood.

SWEETBAY MAGNOLIA (White or Sweet Bay)

(Magnolia virginiana)

SWEET BAY, or white bay, is a small slender tree with gray branches attaining heights of 15 to 30 feet, depending upon the soil conditions. It is found on low. moist or wet lands, and on hammocks throughout nearly all of Florida. It grows from Massachusetts to Texas. It sprouts up freely after fires and sometimes forms thickets. The northern variety is often cultivated as a garden plant in this country and in Europe.



SWEETBAY MAGNOLIA
Leaf, one-third natural size.
Twig, two-thirds natural size.

The **leaves** are simple, oval, pale green above and white beneath, persisting on the branches till Spring, especially in the Piedmont. The winter buds are thickly covered with fine hairs.

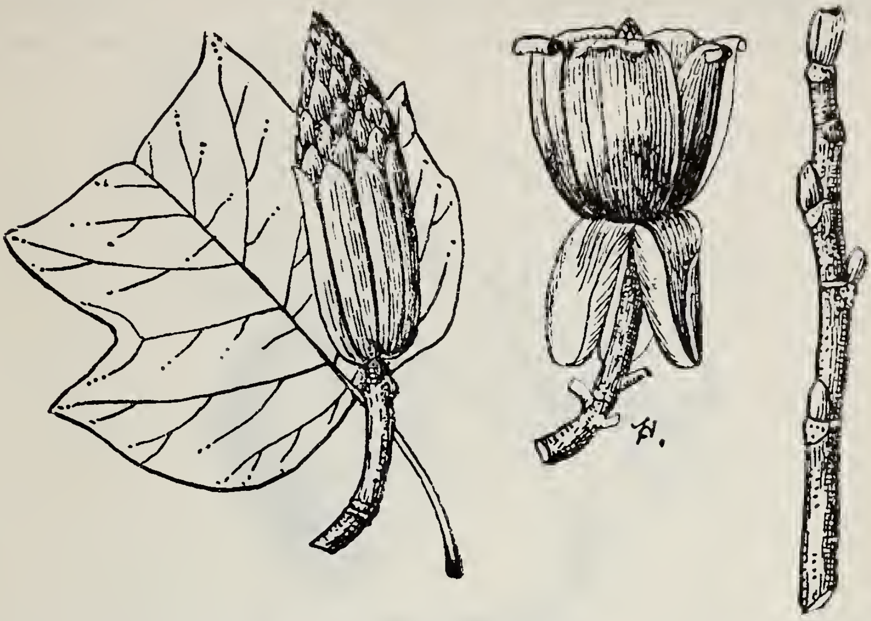
The fragrant **flowers,** with 9 to 12 pure white petals on slender smooth stems, measure from 2 to 3 inches across. They continue to open during several weeks in the spring and early summer. The **fruit** cluster, or "cone," is oval in shape, dark red, smooth, about 2 inches long by one-half an inch broad, and contains scarlet seeds which are variably oval and much flattened, about one-quarter of an inch long.

The **wood** is soft, light brown tinged with red, with cream-white sapwood. The tree is usually too small for the wood to be of much commercial importance, although it is sometimes used along with gum for woodenware and for making paper pulp.

TULIPTREE (Yellow Poplar)

(*Liriodendron tulipifera*)

YELLOW POPLAR, or tulip tree, received its names from the yellow color of its heartwood and its attractive tulip-like flowers. It is one of the largest and most valuable hardwood trees of the United States. It occurs in good soils over northern Florida and has been reported as far south as Orange County. It reaches a height of 60 to 100 feet and a diameter of 3 to 4 feet. Original-growth trees, however, attain heights of 150 to 190 feet and diameters up to 10 feet. Growing with a straight central trunk like the pines, and often clear of limbs for 30 to 50 feet, it has a narrow pyramidal head which in older age becomes more spreading. The tree has been extensively cut, but is reproducing rapidly and remains one of the most abundant and valuable trees in our young second-growth forests. It has been planted as an ornamental and shade tree.



Leaf, one-third natural size. TULIPTREE Twig, two-thirds natural size.

The **leaves** are simple, 5 to 6 inches, in length and breadth, 4-lobed, notched apex, dark green in summer, turning to a clear yellow in the fall.

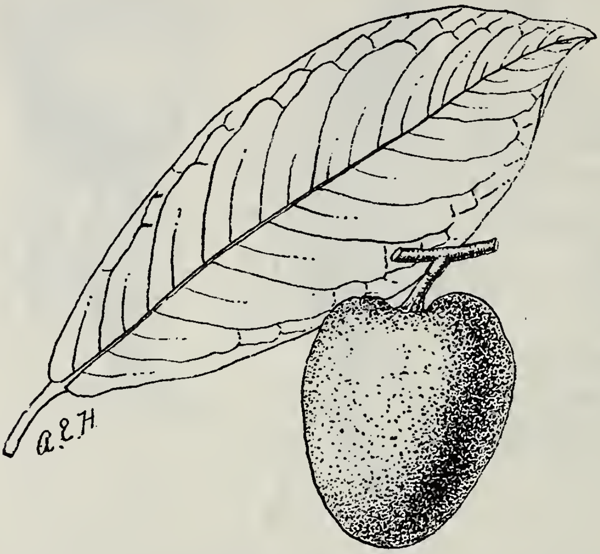
The greenish yellow tulip-shaped **flowers** appear in April. The **fruit** is a narrow light-brown, upright cone, 2 to 3 inches long, made up of seeds, each enclosed in a hard bony coat and provided with a wing which makes it easily carried by the wind.

The **wood** is light, soft, easily worked, light yellow or brown, with wide cream-colored sapwood. It is extensively cut into lumber for interior and exterior trim, vehicle bodies, veneers, turnery and other high-grade uses.

PONDAPPLE (Alligator Apple)

(Annona glabra)

THE pond apple is found from Indian River and Manatee River, on the west coast, south near fresh water ponds and streams and on swampy hammocks. On the swampy borders of Lake Okeechobee it is very abundant, probably reaching its largest size along Bay Biscayne near the Miami River.



PONDAPPLE
Leaf, two-thirds natural size.
Fruit, one-quarter natural size.

It forms a tree up to 50 to 60 feet in height with a much swelled or buttressed base and short clear trunk. The branches are stout and often irregular-shaped.

The **leaves** are leathery, bright green above, 3 to 7 inches long by about 2 inches wide, elliptical or oval in shape, with a thick midrib. They are alternate on the branch.

The **flowers** open from a three-angled bud on a stout flower stem, with 6 petals in two series of 3 each, of a pale or yellowish white, the three outer ones marked with a bright red spot near the base. Sometimes the flowers are of two sexes and appear separately on the same tree or on different trees.

The **fruit** is compound, of many celled, fleshy, 3 to 5 inches long by 2 to 3 inches broad, or broadly pear-shaped in outline. Each separate cell, or unit, contains a seed about ½ inch long. It is light green when full-sized and turns yellow when fully mature. Although slightly aromatic, it is insipid and not eaten as food.

The light brown **wood** is light and soft.

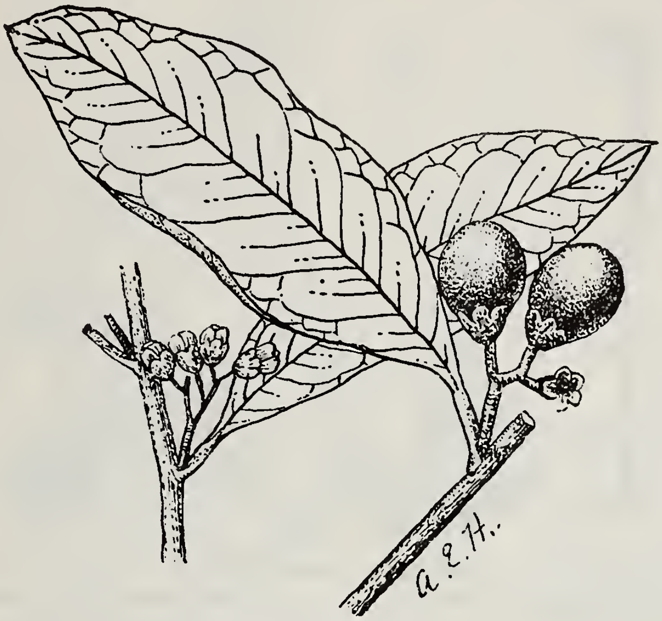
A closely related species, the pawpaw, grows in western Florida.

REDBAY PERSEA (Red Bay)

(Persea borbonia)

THIS native of the southeastern United States is one of a large number found in the two American continents. One of these from the Antilles is the avocado, or alligator pear.

The red bay is a tree up to 70 feet in height and 3 feet in diameter, with a well-shaped head of erect, stout, dark green branches. It grows in moist rich soils along the streams and in swamps, and sometimes in drier soils along with pines, over the coastal region except below Bay Biscayne and Cape Romano.



REDBAY PERSEA
Two-thirds natural size.

The **leaves** are oblong, smooth on the margin, thick or leathery, up to 4 inches in length and 1½ inches in width, bright green with a narrow orange-colored midrib. They remain green over the first winter. The **flowers** are in small clusters and yellowish white.

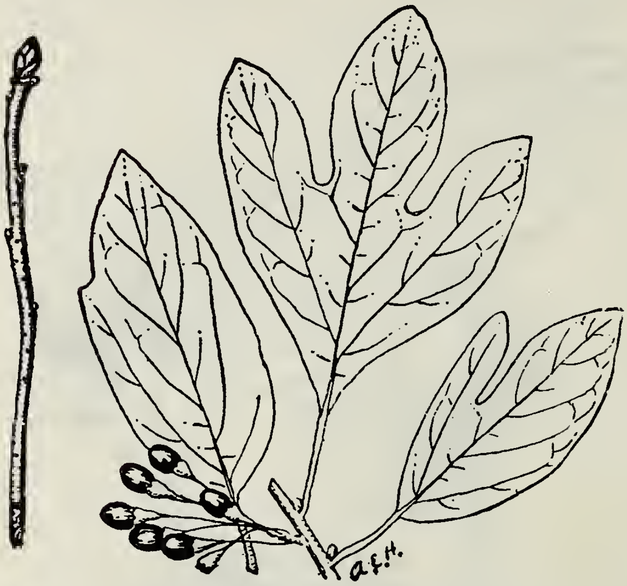
The **fruit** is a nearly round, rather fleshy berry, ripening in the autumn and about ½ inch in length. It is dark blue or nearly black and shiny, and contains a large rounded seed.

The **wood** is heavy, hard, strong, bright red, with thin, lighter colored sapwood. It is used for cabinet-making and interior house finish, and has been used for building boats. Many of the other members of this Laurel Family of trees yield handsome, dark, hard wood of value in cabinet work.

COMMON SASSAFRAS

(Sassafras albidum)

THE sassafras is a small, aromatic tree, usually not over 40 feet in height or a foot in diameter. It is found throughout northern and central parts of the State in woods and fields, and is one of the first broad-leaf trees to come up on abandoned fields, where the seeds are dropped by birds. It is closely related to red bay and the camphor tree of Japan.



COMMON SASSAFRAS
Twig, one-half natural size. Leaf, one-third natural size.

The **bark** of the trunk is thick, red-brown and deeply furrowed and that of the twigs is bright green.

The **leaves** are very characteristic. It is one of the few trees having leaves of widely different shape on the same tree, or even on the same twig. Some are oval and entire, 4 to 6 inches long; others have one lobe, resembling the thumb on a mitten; while still others are divided at the outer end into 3 distinct lobes. The young leaves and twigs are quite mucilaginous.

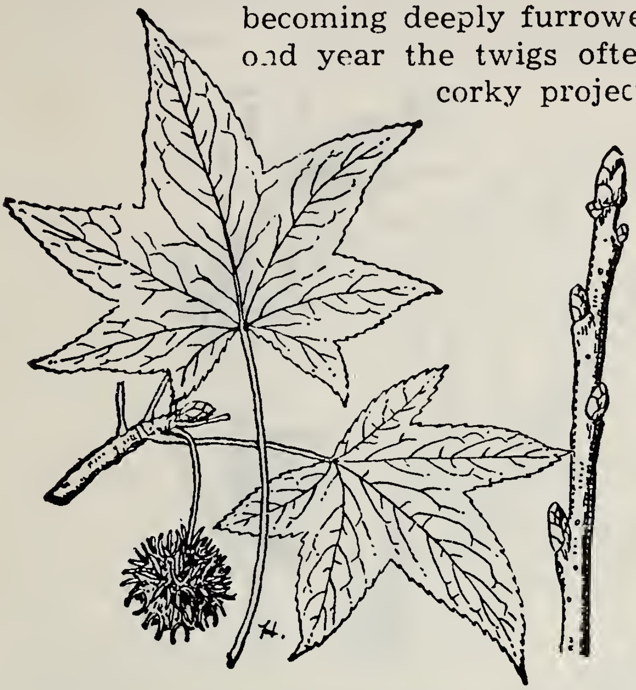
The **flowers** are clustered, greenish yellow, and open with the first unfolding of the leaves. The male and female flowers are usually on different trees. The **fruit** is an oblong, dark blue or black, lustrous berry, containing one seed and surrounded at the base by what appears to be a small orange-red or scarlet cup at the end of a scarlet stalk.

The **wood** is light, soft, weak, brittle, and durable in the soil; the heartwood is dull orange-brown. It is used for posts, rails, boat-building, cooperage and for ox-yokes. The bark of the roots yields the very aromatic oil of sassafras much used for flavoring candies and various commercial products.

AMERICAN SWEETGUM (Red or Sweet Gum)

(Liquidambar stryaciflua)

THE sweet gum is a large valuable forest tree. It occurs on hammocks, rich river bottoms, and in swamps subject to overflow, as well as on drier lands as far south as Cape Canaveral and Tampa Bay. It is usually abundant in second growth on old fields and in cut-over woods. The **bark** is a light gray, roughened by corky scales, later becoming deeply furrowed. After the second year the twigs often develop 2 to 4 corky projections of the bark, which give them a winged appearance.



AMERICAN SWEETGUM
Leaf, one-third natural size.
Twig, two-thirds natural size.

The simple, alternate star-shaped **leaf**, with its 5 to 7 points or lobes, is 5 to 7 inches across and very aromatic. In the fall its coloring is brilliant, ranging from pale yellow through orange and red to a deep bronze.

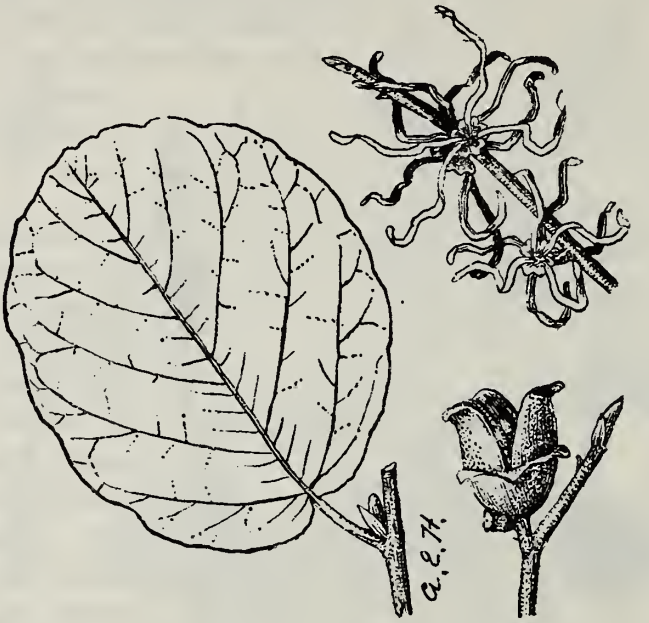
The **flowers** are of two kinds on the same tree, unfolding with the leaves. The **fruit** at first glance reminds one of the balls of the sycamore, but on closer inspection proves to be a head. It measures an inch or more in diameter and is made up of many capsules with projecting spines. It frequently hangs on the tree by its long swinging stem late into the winter.

The **wood** is heavy, moderately hard, close-grained, and not durable on exposure. The reddish brown heartwood, which suggests the name red gum, is not present to any appreciable extent in logs under 16 inches in diameter. The wood is extensively used for flooring, interior finish, paper pulp and veneers for baskets of all kinds. Veneers of the heartwood are largely used in furniture, sometimes as imitation mahogany or Circassian walnut. This tree may be planted for ornamental use.

SOUTHERN WITCHHAZEL

(Hamamelis macrophylla)

THE southern witchhazel is a small tree or shrub found over central and western Florida. It sometimes gets to be 40 feet in height and a foot in diameter, although it is often a large shrub. Commonly many shoots are seen at the base of the tree. The northern witchhazel, which is a smaller tree, meets the range of this species in middle or southern Georgia and westward.



SOUTHERN WITCHHAZEL
Leaf, one-half natural size.
Fruit, natural size.

The **leaves** are much rounded, unsymmetrical at the base, wavy on the margin, dark green above and paler below, and 3 to 5 inches long by 2 to 3 wide. They are hairy on both the upper and lower sides, and on the short leaf-stalks, and roughened by small swellings, or tubercles, at the bases of the hairs. The **flowers** open in late autumn or winter (unlike most trees) and are borne in small clusters. Although small, they are conspicuous by the long, bright yellow, much twisted petals.

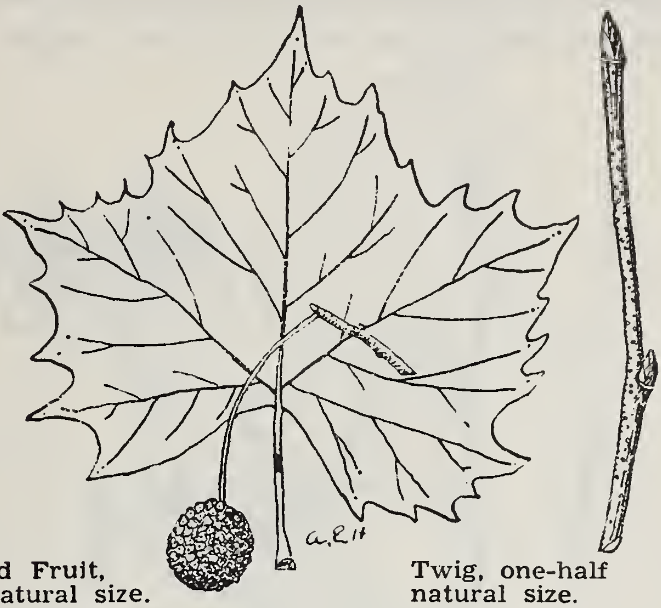
The **fruit**, a thick woody "pod," or capsule, with two curved beaks, is usually borne in pairs. It produces a single oblong hard brown seed.

The **wood** is very close-grained, heavy, hard, reddish brown, with nearly white sapwood. From the bark and leaves of the northern witchhazel a distilled product is obtained largely used in fluid extract.

AMERICAN PLANETREE (Sycamore)

(Platanus occidentalis)

THE sycamore, also called buttonwood, is considered the largest hardwood tree in North America. It occurs over northern Florida on stream banks but is most abundant and reaches its largest size along the Apalachicola River. It is one of the more rapid-growing trees. In maturity it occasionally attains a height of 140 to 170 feet and a diameter of 10 to 11 feet. It often forks into several large secondary trunks, and the massive spreading limbs form an open head sometimes 100 feet across.



Leaf and Fruit, one-third natural size.

Twig, one-half natural size.

AMERICAN PLANETREE OR SYCAMORE

The **bark** of the sycamore is a characteristic feature. On the younger trunk and large limbs it is very smooth greenish gray in color. The outer bark yearly flakes off in large patches and exposes the nearly white younger bark. Near the base of old trees the bark becomes thick, dark brown and divided by deep furrows.

The **leaves** are simple, alternate, 4 to 9 inches long and about as broad, light green and smooth above, and paler below. The base of the leafstalk is hollow and in falling off exposes the winter bud. The **fruit** is a ball about 1 inch in diameter, conspicuous throughout the winter as it hangs on its flexible stem, which is 3 to 5 inches long. During early spring the fruit ball breaks up, and the small seeds are widely scattered by the wind.

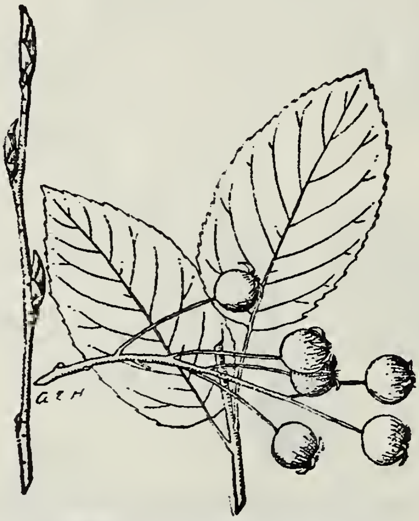
The **wood** is hard and moderately strong, but decays rapidly in the ground. It is used for butchers' blocks, tobacco boxes, furniture and interior finish.

The European sycamore, or planetree, is less subject to disease than our species and has been widely planted in this country for ornament and shade.

SHADBLOW SERVICEBERRY

(Amelanchier canadensis)

THE service-tree, also known as service-berry and locally as "sarvis," is found from Maine to Louisiana and Oklahoma, including the western part of Florida. It is a small tree, 20 to 50 feet high and 6 to 18 inches in diameter, with a rather narrow, rounded top, but is often little more than a shrub. The **bark** is thin, ashy gray, smooth on the branches and upper part of the stem, and beaking into shallow fissures on the short trunk.



SHADBLOW SERVICEBERRY
One-half natural size.

The **leaves** are alternate, slender-stalked ovate, pointed, finely toothed, 2 to 4 inches long, purplish brown until nearly mature, then becoming a light green, and early covered with scattered silky hairs.

The white **flowers** appear in erect or drooping clusters in early spring, before or with the leaves, making the tree quite conspicuous in the leafless or budding forest. Farther north it has been planted because of its very early and ornamental flowers.

The **fruit** is sweet, edible, rounded, dark purple when ripe, one-third to one-half an inch in diameter, ripening early in June. Birds and other denizens of the forest are very fond of the fruit and men have been known to cut down and destroy the trees to gather one good crop of fruit.

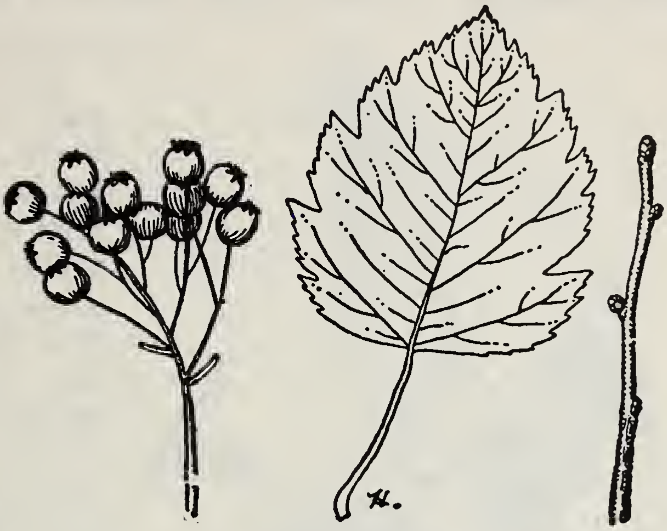
The **wood** is heavy, exceedingly hard, strong, close-grained and dark brown. It is occasionally used for handles. This is a desirable ornamental tree and should be planted for this purpose and to encourage the birds.

HAWTHORN

(Haw, White Haw, Red Haw, Thorn Bush)

(*Crataegus* species)

THE hawthorn, as here treated, represents a considerable number of different species and varieties distributed throughout the northern and central peninsula portions of the State. About 50 species are known to occur in Florida. Members of the group occur on the poorest and richest soils, on the shallowest and deepest, and on the limestone hills as well as on the rich bottom and swamp land. Most of the forms have a common likeness in possessing thorns and bearing white blossoms and red or yellow fruit. Some species are planted as ornamental trees, but otherwise the group is of little commercial value.



HAWTHORN
Two-thirds natural size.

The **bark** is generally thin, gray in color, and on the old stems broken up into thin, narrow scales.

The **leaves** are simple, alternate, mostly oval or wedge-shaped, notched on the edges, and usually from 2 to 3 inches long.

The **flowers** are white, some fragrant and others with a slightly unpleasant odor they appear in early spring. The **fruit** varies from globular to oblong, from one-fourth to three-fourths inch in diameter; some when ripe have a pulpy, sweet, edible flesh, surrounding from 1 to 5 bony seeds. The fruit of most species ripens in the fall, and one or two varieties yield a fruit highly prized for making jelly.

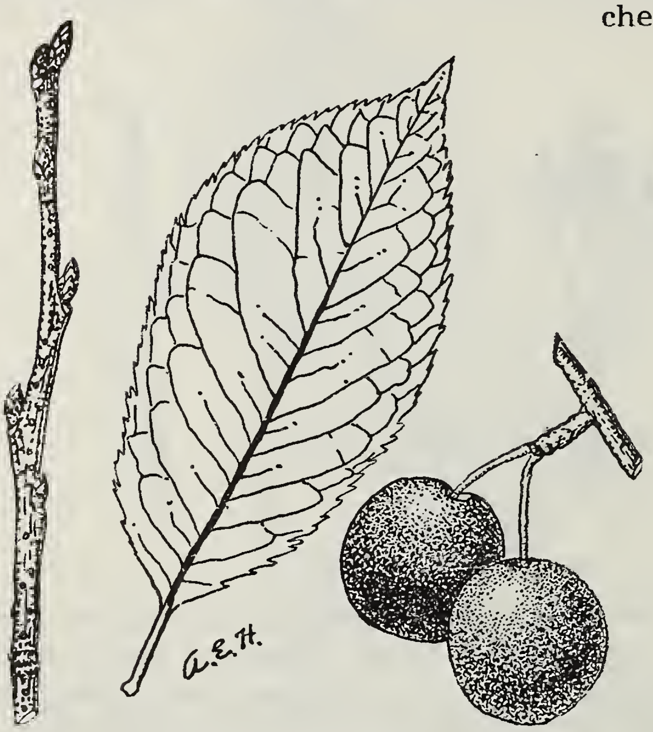
The **wood** is strong, tough, heavy, hard, but rarely used for any purpose.

Many species of birds are attracted to these trees and bushes, largely on account of the fruit and the protection offered for nesting.

AMERICAN PLUM

(Prunus americana)

THE common wild plum, or yellow plum, is a small tree of western Florida, which at a height usually of 3 to 6 feet divides into many spreading branches, often drooping at the ends. Not uncommonly it grows in thickets where it attains only large shrub size. The value of the tree lies in its fruit from which jelly and preserves are made and its handsome form and foliage, pure white fragrant flowers, and showy fruit which make it desirable for ornamental planting. Several other species of plums or cherries are natives.



AMERICAN PLUM
Three-quarters natural size.

The **leaves** are alternate oval, pointed sharply toothed (often doubly toothed) along the margin, thick and firm, 3 to 4 inches long by 1 to 2 inches wide, narrowed or rounded at the base, and prominently veined on both surfaces.

The **flowers** appear in numerous small clusters before or simultaneously with the leaves, and are white with small bright red portions in the center. With a profusion of flowers, this tree is one of the delights of early spring in the woods. The **fruit**, or plum, which ripens in late summer, is red or orange colored, about an inch in diameter, contains a stone or pit that is flattened and about as long as the pulpy part, and varies rather widely in its palatability. Horticulturists have selected and improved certain strains for cultivation.

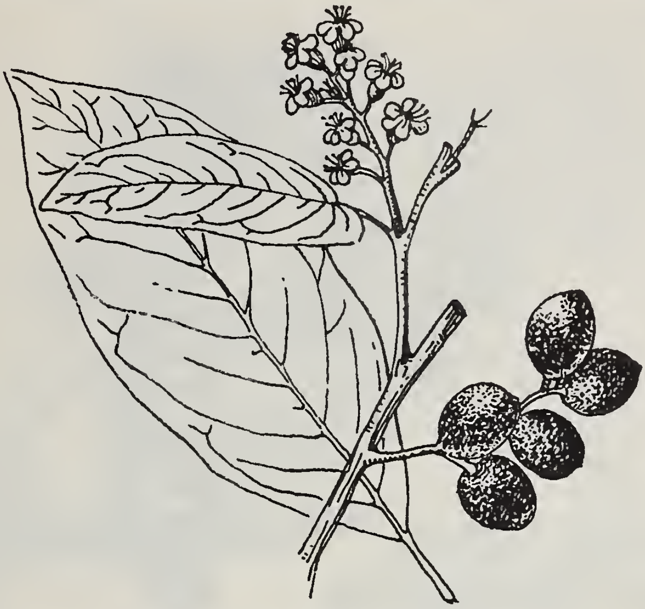
The **wood** is heavy, hard, close-grained, reddish brown in color and has no special commercial uses.

The wild goose, or river, plum also occurs over the State. It leaves are smaller, narrower and more noticeably pointed.

CAROLINA LAURELCHERRY

(Prunus caroliniana)

A HANDSOME tree with dark green leaves and much planted for ornamental purposes, the laurel cherry, or mock orange, is native as far south as Bay Biscayne and Kissimmee River. It prefers river banks and the borders of hammocks, and in the region about Orange County is an abundant tree. The trunk is straight or leaning, up to 40 feet in height by some 10 inches in diameter. The head is dense with many leaves.



CAROLINA LAURELCHERRY
Leaf, natural size.
Fruit, one-half natural size.

The **leaves** are narrowly oblong, pointed, smooth on the margin, from 2 to 4 inches long and up to 1½ inches wide, dark rich green and glossy on the upper surface. Animals browsing on the partly withered leaves and twigs are sometimes fatally poisoned because of the hydrocyanic acid they contain.

The **flowers**, appearing in early spring, are small and in clusters borne in the axils of the leaves. The very small petals are cream colored. The **fruit**, which ripens in the early autumn, and remains on the tree until after the tree has flowered the following spring, is black, oblong, and shiny. The thick skin covers a stony seed about ½ inch long.

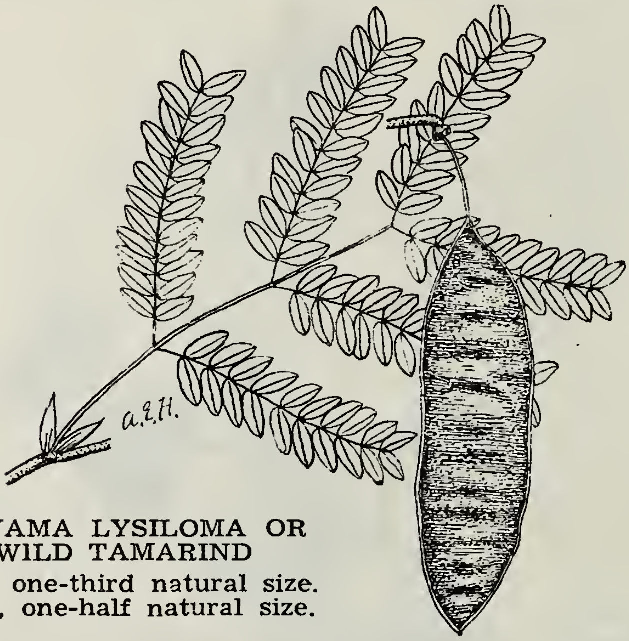
The reddish brown **wood** is heavy, hard, strong, and close-grained. Around it is a band of lighter colored sapwood. There are no special uses for the wood. The tree occurs from North Carolina over the coast region to Texas and in the Bermuda Islands.

BAHAMA LYSILOMA (Wild Tamarind)

(Lysiloma bahamensis)

THIS tree has been selected to represent one group of the legume, or pea, family common in the warmer portion of the State. The wild tamarind is found on hammocks along the shores and over the Keys of southern Florida. It is also a native of Cuba and the Bahama Islands.

It is a tree up to 50 to 60 feet in height and 2 to 3 feet in diameter, with stout branches forming a wide-spreading and flat-topped head. The young branches are bright reddish brown which later become a little paler.



BAHAMA LYSILOMA OR WILD TAMARIND
Leaf, one-third natural size.
Fruit, one-half natural size.

The **leaves** are compound, made up of several (2 to 6) double rows of leaflets, or pinnae, in feather-like arrangement. The whole leaf is usually 4 to 5 inches long. The leaflets are very small—there being from 20 to 50 on each pinna, or part of the leaf—about ¼ to ⅓ inch long, light green above and paler below.

The **flowers** are clustered in a round "head" or ball, about 1/3 inch in diameter, borne on a slender stalk about 1 inch in length. The heads occur singly or in small groups in the axils of the outer leaves. The individual flowers are tiny, usually white or greenish white.

The **fruit** is a pod, pointed at both ends, about 4 to 5 inches long by 1 inch broad, usually a few in a cluster. They are dark red or brown when mature and gradually open, shedding the flattened seeds each about ¼ inch long.

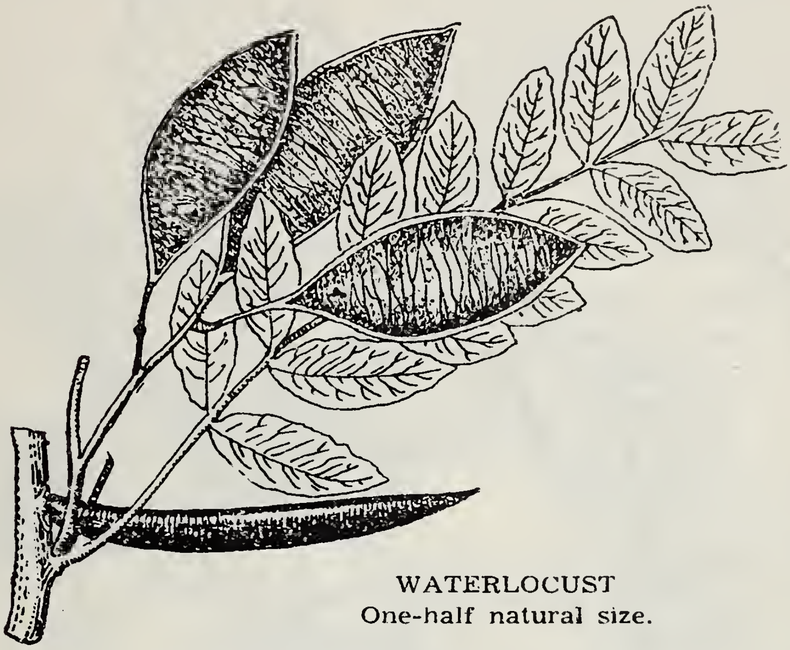
The **wood** is heavy, hard, tough, close-grained dark reddish brown, and occasionally used for boat building.

WATERLOCUST

(Gleditsia aquatica)

IN the swamps along the lower Atlantic and Gulf coasts is found a close relative to the honey locust, a well-known tree of all the eastern half of the United States. It can be distinguished by the small pod having one seed, rarely 2 or 3. This is obviously a member of the Legume family.

The water locust reaches heights of 50 to 60 feet and diameters up to 2 to 3 feet. The trunk is usually short, dividing into several spreading, and often distorted branches. The branchlets have sharp spines from 3 to 5 inches in length, dark red and shiny.



WATERLOCUST
One-half natural size.

The **leaves** are 5 to 8 inches long, with 12 to 20 leaflets arranged in rows on opposite sides of the leaf stem, or midrib. Each leaflet is an inch or so in length, oblong, sometimes slightly toothed on the edge, dull green or yellow-green above and dark green on the lower surface.

The **flowers** appear in small clusters along the flower stems (racemes) each about 3 to 4 inches long. They are green in color, and the stalks spring from the same place as the leaf stalks. The flowers open after the leaves are well out. The **fruit** pod hangs by a slender stem, a few in a cluster. It is an inch wide and a little longer; the pod is thin-walled, tough and papery, chestnut brown, and shiny, and the seeds flattened, nearly round, about ½ inch across, and orange-brown in color.

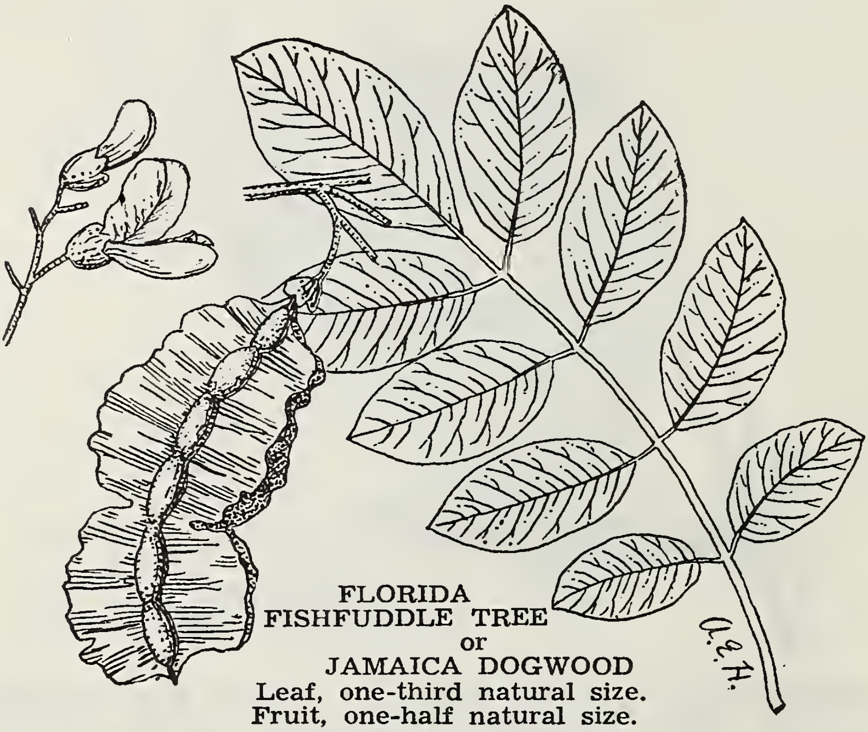
The **wood** is heavy very hard, strong light reddish brown and surrounded by a wide band of clear yellow sapwood.

FLORIDA FISHFUDDLETREE

(Jamaica Dogwood)

(Piscidia communis)

ONE of the most abundant tropical trees and most valuable timber producing trees in tropical Florida is the Jamaica dogwood. It occurs on hammocks over the coastal shores and Keys from Bay Biscayne around to Cape Sable. The tree reaches heights up to 50 feet with trunks from 2 to 3 feet in diameter, with an irregular-shaped head formed of erect or irregular-shaped branches.



FLORIDA
FISHFUDDLE TREE
or
JAMAICA DOGWOOD
Leaf, one-third natural size.
Fruit, one-half natural size.

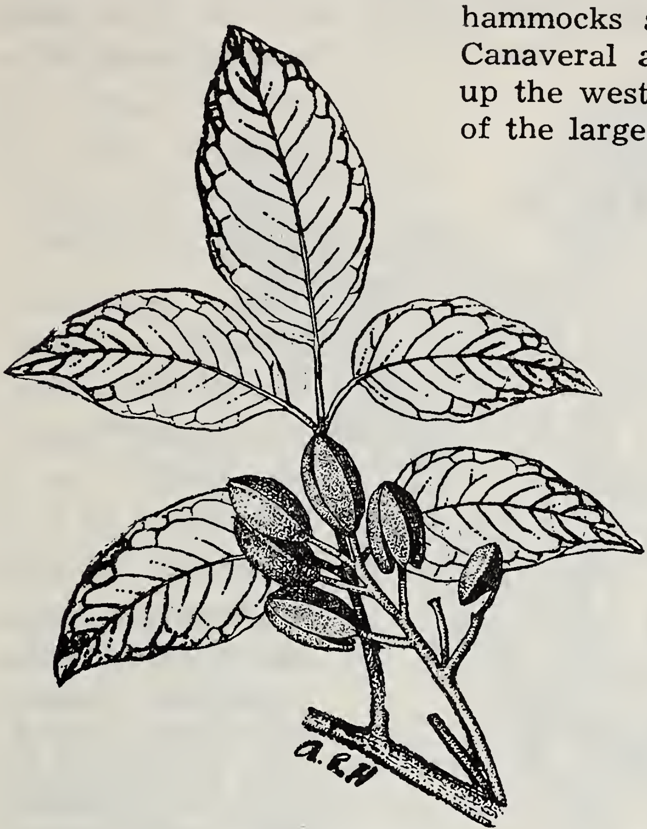
The **leaves** are compound, from 5 to 9 inches long, made up of 5 to 11 leaflets, each oval or pear-shaped, thick, dark green and shiny above, and pale beneath, the midrib reddish downy on the under side. They fall in the spring. The **flowers** are pea-like (as are many of the legumes), borne in a many-flowered cluster springing from the axil of the fallen leaf of the year before. The color is white tinged with red. The **fruit** is a 4-winged pod, 3 to 4 inches long, the wing thin, wavy, and irregularly cut. The seeds are flattened, oval, reddish brown and dull on the surface.

The **wood** of this common tree is very hard, heavy, close-grained, and durable in contact with moisture and heat. It is used for shipbuilding, posts and poles, and making charcoal. The bark of the roots, the young branches, and the leaves have been used by the native Caribs to poison fish or stupify them, so they were easily picked up from the water surface. The tree grows rapidly and its propagation and culture is recommended.

GUMBOLIMBO (West Indian Birch)

(Bursera simaruba)

THIS is a smooth-barked tree, up to 60 feet in height, with a trunk reaching a size of 2 to 3 feet in diameter, topped by massive branches spreading out at wide angles and many stout round branchlets, gray the first year and turning reddish brown the next year. The falling leaves make large, raised, yellow scars on the small stems. It is found on coastal hammocks south from Cape Canaveral and about as far up the west coast. It is one of the largest and most common trees of the region, and the fact that it sheds its leaves in the fall will aid in its identification.



GUMBOLIMBO
Leaf, one-sixth natural size.
Fruit, natural size.

The **leaves** are borne near the ends of the branchlets. They are from 6 to 8 inches long and 4 to 8 inches wide, consisting usually of 5 thick or leathery leaflets, pear-shaped, pointed, and from 2 to 3 inches in length by 1 to 2 inches in breadth.

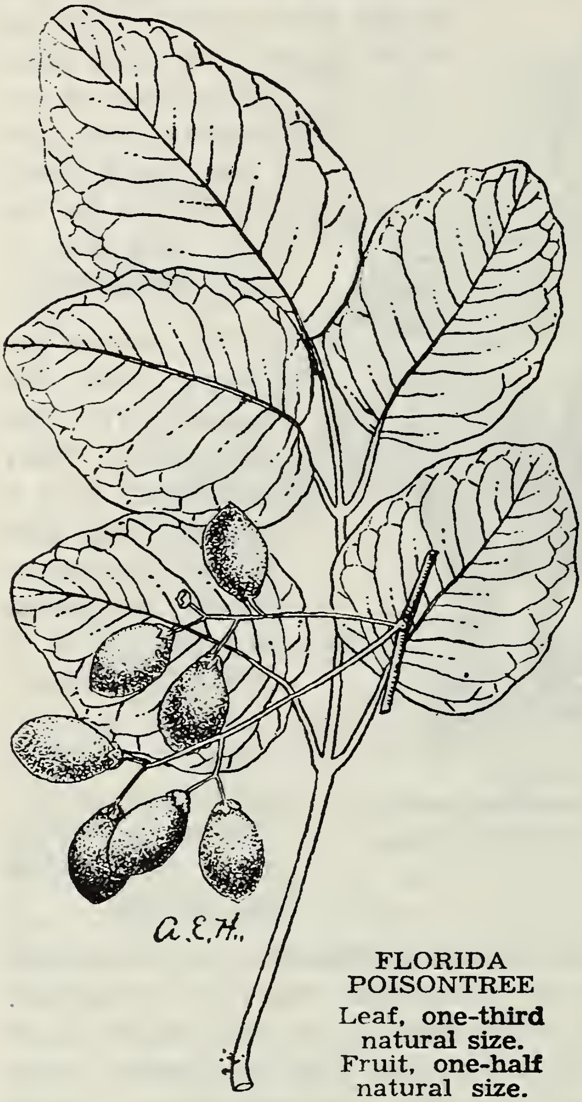
The **flowers** are about ¼ inch in diameter, in compound clusters (panicles), of two kinds on separate trees, and they appear before or at the time the leaves unfold from the bud. The **fruit** is rounded, 3-angled, in clusters, with a thick dark red outer covering, bearing from 1 to 3 hard, triangular rose-colored seeds, pointed, and rounded at the base.

The **wood** is soft, light, spongy, light brown in color. It grows readily from branches stuck in the ground, soon making a good sized tree. Living fences have been grown in this manner. The tree exudes an aromatic resinous sap, which has been used as a liniment, and made into varnish. The leaves are sometimes used as a substitute for tea.

FLORIDA POISONTREE (Hog Gum)

(Metopium toxiferum)

A VERY common, medium-sized tree with poisonous properties, found on hammocks along the shores south from Bay Biscayne and over the Keys. It reaches heights of 30 to 40 feet with a short trunk up to 2 feet in diameter and a low wide head of stout branches, often drooping. The **bark** is very thin, and of a reddish or orange-brown, often dark spotted from the dried gum which exudes as a milky caustic, or burning, juice. It has emetic or purgative properties.



FLORIDA POISONTREE
Leaf, **one-third natural size.**
Fruit, **one-half natural size.**

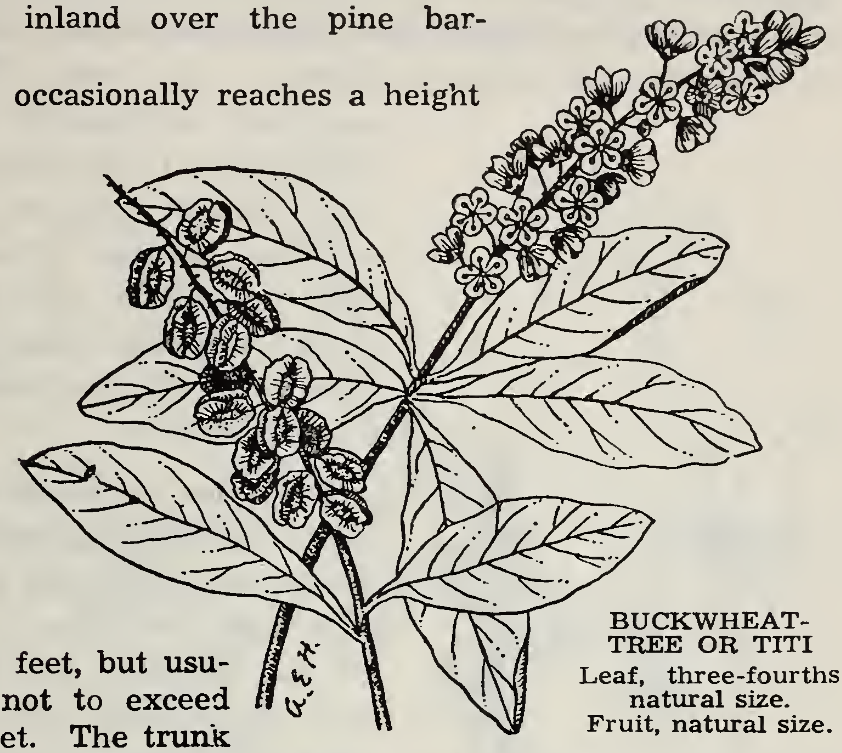
The **leaves** consist of 3 or 7 leaflets on long stems, each oval or rounded, from 3 to 4 inches long by 2 to 3 inches broad, firm or leathery, shiny, and marked by a prominent midrib. The whole leaf is from 9 to 10 inches long, and they are borne in clusters near the ends of the branchlets. The **fruit** is orange colored, rounded, about ¾ inch long, and hangs in long clusters. Each bears a single hard or bony, 4-sided seed, about ¼ inch long.

The **wood** is dark brown streaked with red, hard and heavy, but not strong. The sapwood is wide and varies from light brown to yellow in color.

BUCKWHEATTREE (Titi)

(Cliftonia monophylla)

FEW people have been in Florida long without seeing or hearing about titi swamps. The titi is a small tree peculiarly adapted to survive and thrive in shallow swamps, ponds and bays, and in the wet sandy peat soils long remaining submerged. In such places it often forms dense thickets, over the coastal region and somewhat inland over the pine barrens.



BUCKWHEAT-TREE OR TITI
Leaf, three-fourths natural size.
Fruit, natural size.

Titi occasionally reaches a height of 40 feet, but usually not to exceed 25 feet. The trunk is small, inclined or crooked, and divides at a height of 10 to 15 feet into numerous branches and slender stiff branchlets of a reddish brown color.

The **leaves** vary from 1½ to 2 inches long by ½ to 1 inch wide, bright green and shiny above, paler beneath, smooth on the margins, and broadest beyond the middle portion. They do not drop until autumn of the second year.

The **flowers** are fragrant, small, in elongated clusters (racemes borne at the ends of the branchlets. They appear in February and March, and are white or rose-colored. The **fruit** has 2 to 4 thin membraneous wings, is ¼ inch long, and usually divided into 3 (sometimes 4) cells, each of which contains a round light-brown seed.

The **wood** is heavy and close-grained from the very narrow annual rings, but rather weak and brittle; reddish brown in color. It burns briskly with a yellow flame and is in demand as fuel.

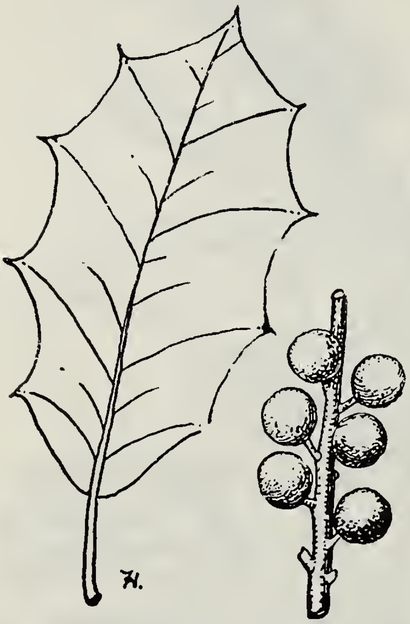
Another tree closely related botanically, the leatherwood or ironwood, often grows with the titi. Its leaves are longer and narrower and its fruit divided into 2 cells, each containing 2 elongated pointed seeds.

AMERICAN HOLLY

(Ilex opaca)

THE holly occurs on hammocks and other rich damp soils over northern and upper middle Florida. It is much less abundant now than formerly, due to the large amount gathered and shipped to the cities for Christmas decorations.

It is a small evergreen tree, seldom exceeding 30 feet in height and 12 inches in diameter. The **bark** is light gray and roughened by wart-like growths. The numerous short, slender branches form a dense, narrow pyramidal head of striking dark green color effect, especially when well laden with the conspicuous red berries.



AMERICAN HOLLY
Two-thirds natural size.

The **leaves** are simple alternate, oval, thick and leathery, 2 to 4 inches long, and armed with spiny teeth they persist on the branches for about three years, then they drop off in the spring.

The **flowers** are small, whitish and inconspicuous; the male and female flowers are usually borne on separate trees.

The **fruit**, which ripens late in the fall and persists on the branches over the winter, is a dull red or sometimes yellow, nearly round berry, about one-quarter of an inch in diameter containing 4 to 6 ribbed nutlets.

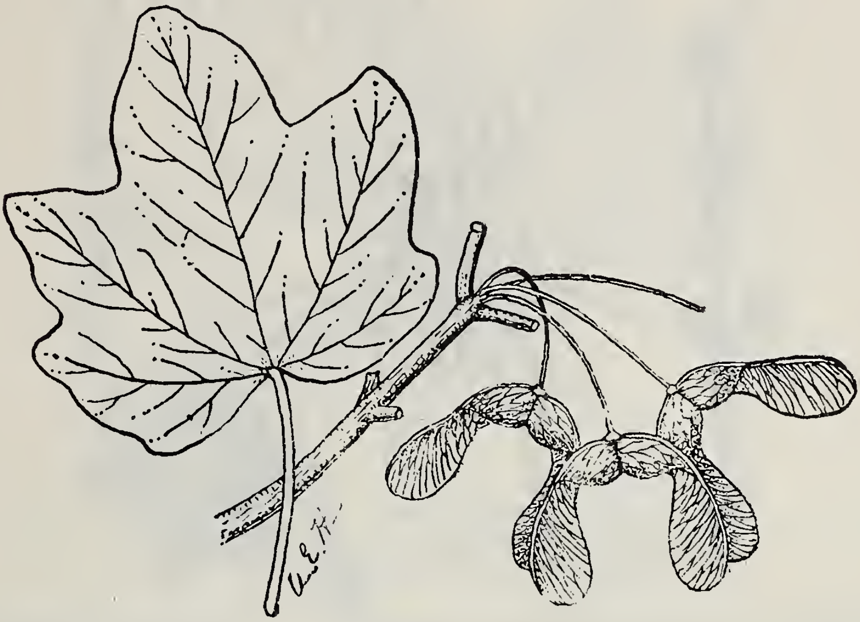
The **wood** is light, tough, not strong, and nearly white. It is valued and much used for cabinet work and wood-turning. For this purpose many of the larger, finer trees have been cut and marketed.

Several other species of *Ilex* are present, one, the cassena or yaupon, sometimes used as a substitute for tea. Another, a shrub or small tree with erect branches, occurs on the "scrub" in middle Florida.

FLORIDA MAPLE (Southern Sugar Maple)

(Acer floridanum)

THIS tree, which closely resembles the well-known sugar maple of the northern States, extends into the State from Georgia and Alabama. It is found on hammocks and good forest soil, reaching a height rarely over 50 feet, with a trunk up to 2 feet in diameter. The young branchlets are light green. The **bark** on the trunks is gray, in old trees becoming darker and deeply furrowed.



FLORIDA MAPLE
Leaf, two-thirds natural size.
Fruit, natural size.

The **leaves** are opposite on the stem, 3 to 5 lobed, thin, dark green and shiny above, grayish and downy below. They are from 2 to 3 inches in diameter, generally rounded in outline, and turn yellow or scarlet in the autumn before dropping from the trees.

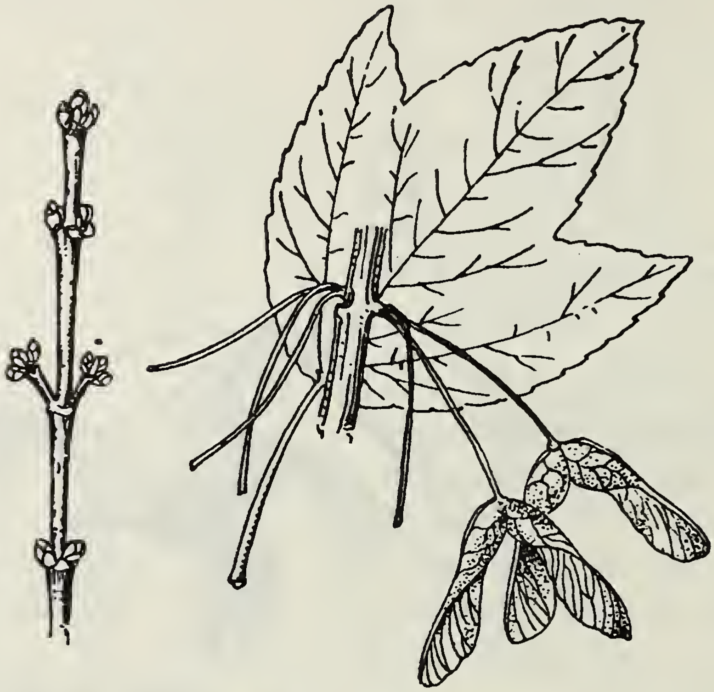
The **flowers** open in early spring, before or with the leaves, making the tree conspicuous with a mass, or halo, of very light green. The flowers are small and come in drooping clusters, each noticeably hairy with scattered long hairs. The maple "keys" are the **fruit**, each with 2 spreading wings, varying from ¼ to ¾ of an inch long, atached to the rounded seed-bearing portion. This makes the seed fly far by strong winds.

The **wood** is light brown, heavy and hard, generally like that of the northern sugar or hard maple.

TRIDENT RED MAPLE

(Acer rubrum trilobum)

THE red maple, or swamp maple, is widely distributed throughout the State. It is usually a medium-sized tree, quick-growing and relatively short-lived. In Florida, the common tree has a three-lobed, or trident, leaf, and is a distinct variety of the northern red maple. The **bark** is smooth and light gray on young stems, and dark gray and rough on the old limbs and trunk.



TRIDENT RED MAPLE
One-half natural size.

The **leaves** are 3 to 4 inches long and have well-marked lobes, almost no teeth, or small points, on the edge and are often densely wooly of a bluish color on the lower sides. They are thick and firm in texture. In autumn the leaves turn to brilliant shades of red, orange and yellow.

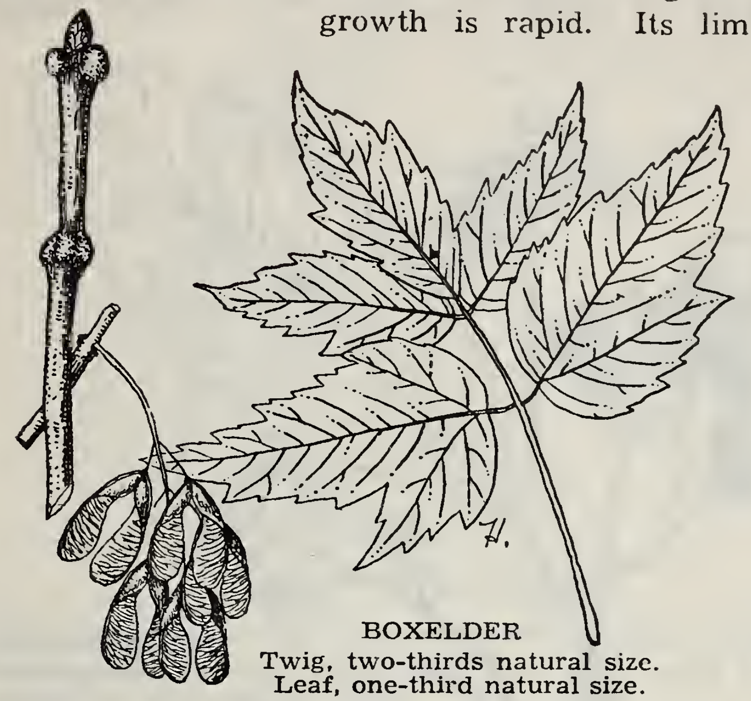
The bright scarlet **flowers** in dense clusters begin to appear in January before the leaves, the buds turning a deep red sometimes before they open. The winter buds are small, red and round or blunt-pointed. The **fruit** ripens in early summer. It consists of pairs of winged seeds or keys, one-half to 1 inch in length, on long drooping stems, red, reddish brown or yellow in color.

The **wood,** which is commercially known as soft maple, is heavy, close-grained, rather weak and of a light-brown color. It is used in the manufacture of furniture, and for turnery, woodenware, and also fuel.

BOXELDER

(Acer negundo)

THE boxelder is a fairly rapid growing tree, found sparsely in northern Florida and the upper part of the Peninsula. It occurs mostly on hammocks and along river banks. It is a true maple, but differs in having a compound leaf. It is a tree of medium size, rarely reaching over 24 inches in diameter and 60 to 70 feet in height. It has been planted for shade because in good soil its growth is rapid. Its limbs and branches, however, are fragile, and the tree as a whole is subject to disease. It is not long-lived or generally satisfactory for any purpose. It is prolific in reproduction but is largely destroyed by grazing and cultivation.



BOXELDER
Twig, two-thirds natural size.
Leaf, one-third natural size.

The **bark** on young branches is smooth and green in color; on old trees it is thin, grayish to light brown and deeply divided.

The **leaves** are compound, with usually 3 leaflets (rarely 5 to 7), opposite, smooth and lustrous, green, and borne on a leaf stem or petiole 2 to 3 inches long. The leaflets are 2 to 4 inches long by 1 to 2 inches wide, making the whole leaf 5 to 8 inches in length.

The **seed** is a samara, or key, winged similarly to that of a sugar maple, but smaller. It ripens in late summer or early fall, and so is like its close relative, the sugar maple, but unlike its other close relatives, the red maple and silver maple.

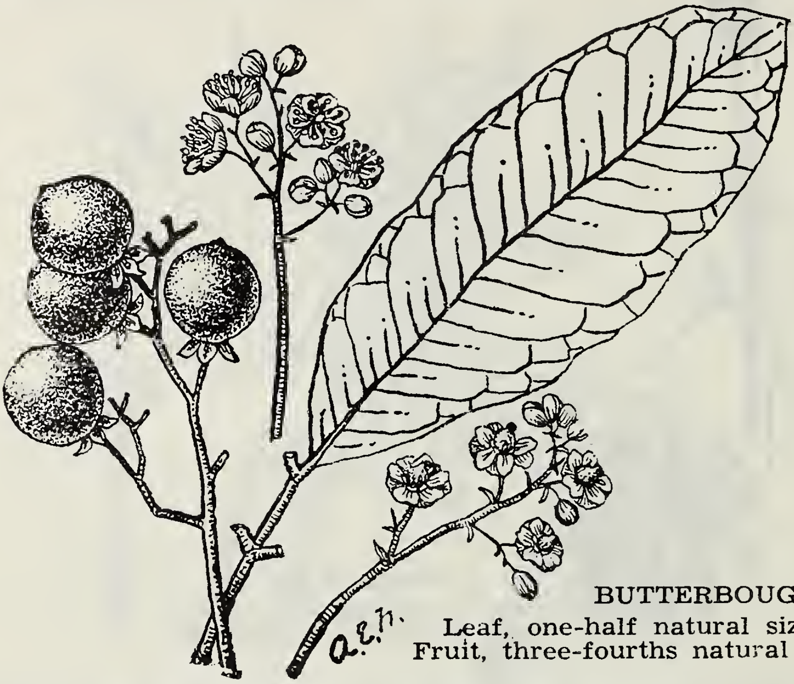
The **wood** is soft, light, weak, close-grained and decays readily in contact with heat and moisture. It is used occasionally for fuel.

BUTTERBOUGH (Inkwood or Ironwood)

(Exothea paniculata)

THIS tree of commercial value, belonging to the Soapberry family of trees, is nowhere abundant but generally distributed along the coast south of Mosquito Inlet, and over the Keys. It is found growing in hammocks.

It reaches a height up to about 50 feet and a diameter up to some 15 inches, and bears many slender upright branchlets with reddish brown **bark**, thickly covered with small white dots, breathing pores, or lenticels.



BUTTERBOUGH
Leaf, one-half natural size.
Fruit, three-fourths natural size.

The **leaves** are alternate on the stem, and compound made up of 4 (3 or 5) separate leaflets, each 4 to 5 inches long by 1 to 2 inches wide, smooth, oblong, smooth margins, dark green on the upper side and paler beneath.

The **flowers** are about ¼ inch in diameter, open in April, white (5 petals), of two kinds, each borne on separate trees. The **fruit** is a round berry, dark-orange color when ripe in the autumn, about ½ inch across, and contains a single, nearly round seed.

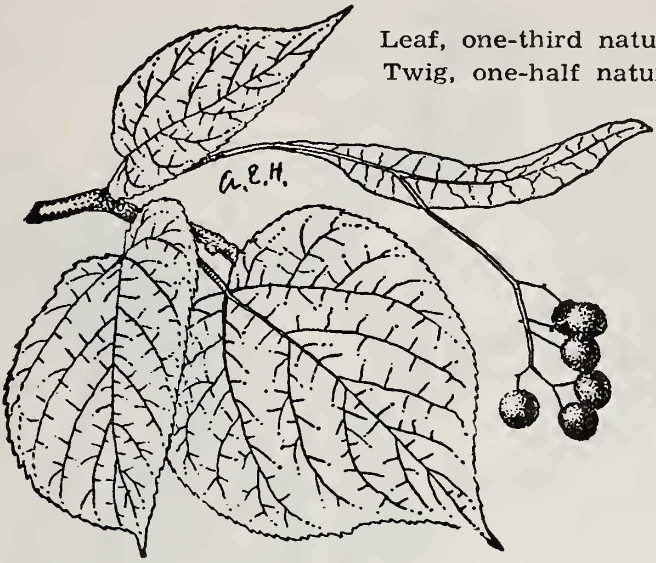
The **wood** is very hard and heavy, strong, close-grained, clear reddish brown, with a band of lighter colored sapwood. It is used for wharf piles, boat-building, and many small articles including tool handles.

The name "inkwood" has its origin in the primitive use by the natives of the West Indies, where this and a number of other closely related species are found. The **bark**, and perhaps also the berries, are used to make an ink-like liquid.

LINDEN, OR BASSWOOD (Wahoo)

(*Tilia* species)

THE lindens, basswoods, or lins, are a group of forest trees distinctive, yet as a group so similar that they are being considered together. At least 4 species occur over northern or central Florida, well into the Peninsula. They are common and valuable timber trees, attaining heights of 70 feet and diameters of 2 feet. The **bark** is light brown, deeply furrowed, and is often peeled for making rough camp buildings. The inner bark furnishes bast for making mats.



Leaf, one-third natural size.
Twig, one-half natural size.

LINDEN OR BASSWOOD

The **leaves** are more or less heart-shaped, 3 to 6 inches long, thin, saw-toothed, smooth on both sides in some species, but woolly on the under surface of others.

The **flowers** are yellowish white, in drooping clusters opening in early summer, and the flower-stem is united to the middle of a long, narrow, leaf-like bract. They are very fragrant and from them the bees make large amounts of choice-grade honey.

The **fruit** is a berry-like, dry, 1 to 2 seeded and rounded pod, one-quarter to one-half an inch in diameter, covered with short, thick and brownish wool. It remains attached in clusters to the leafy bract, which later acts as a wing to bear it away on the wind.

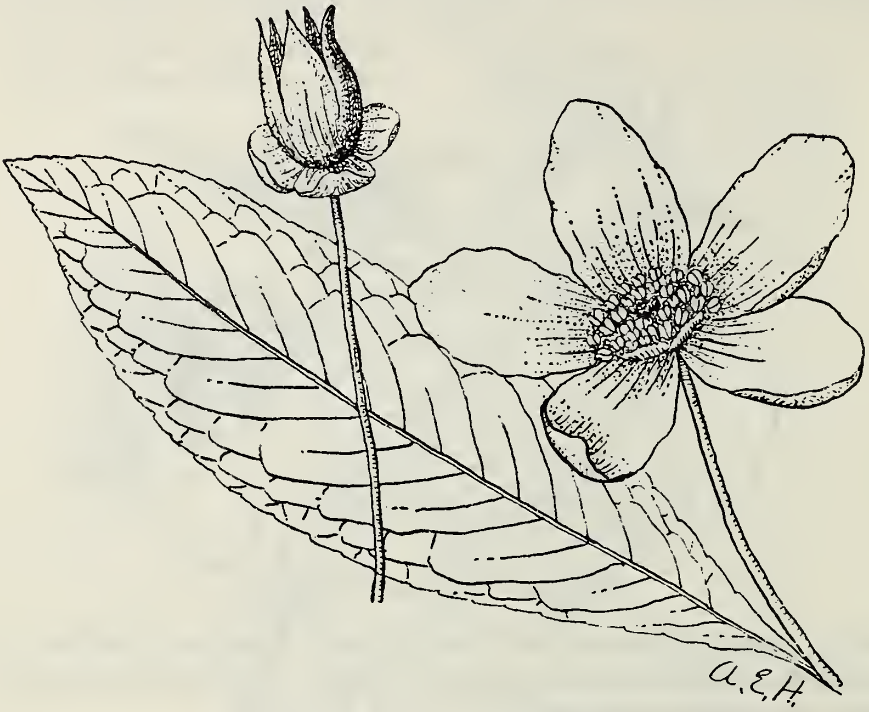
The **wood** is light, soft, tough, not durable, light brown in color. It is used in the manufacture of pulp, woodenware, furniture, trunks, excelsior and many other articles.

The following species and varieties of linden have been found in Florida: T. floridana Small, T. eburnea, T. heterophylla Vent. and T. georgiana Sarg.

LOBLOLLYBAY GORDONIO (Loblolly Bay)

(Gordonia lasianthus)

THE loblolly bay is botanically related to the tea plant of Asia. It is a comparatively short-lived tree, up to 70 feet in height with a tall straight trunk reaching a diameter of 20 inches, with a narrow compact head of spreading branchlets. In the United States this tree is found from Virginia to the Mississippi river, and in Florida in swamps and hammocks over the State except the lower Peninsula.



LOBLOLLYBAY GORDONIA
Leaf, one-half natural size.
Flower and fruit, three-fourths natural size.

The **leaves** are 4 to 6 inches long by 1 to 2 inches broad, leathery, dark green, smooth and shiny, broader near the outer end, and toothed or wavy on the margin. They turn scarlet color in the fall and drop gradually during the next year.

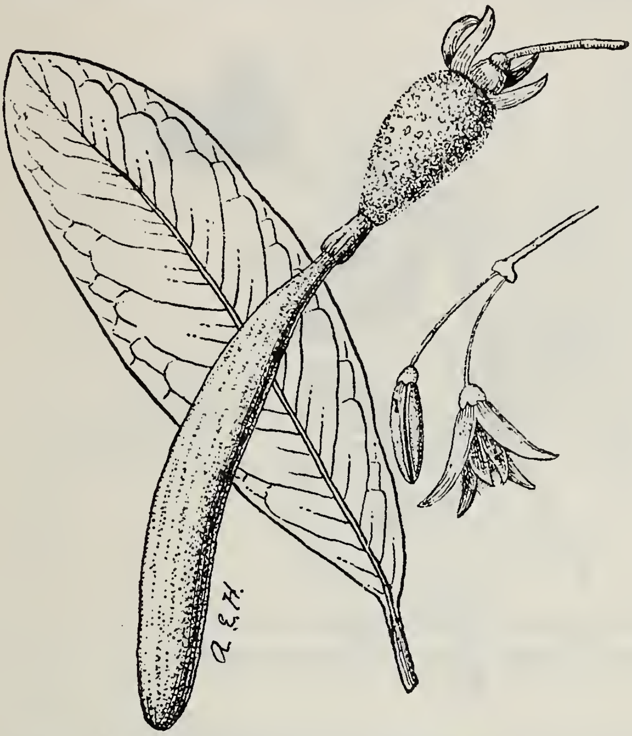
The **flowers** are fragrant, white, about 2 to 3 inches across, opening in midsummer during a period of several weeks. They are borne singly on rather long, stout, red flower-stalks, springing from the axils of the leaves. The petals are rounded and silky on their lower sides. The **fruit** is oval pointed, hard or woody, downy coated, about ¾ inch long by ½ inch in diameter, and splits into 5 cells, or parts, each bearing from 2 to 8 hard, winged, 4-sided seeds.

The **wood** is soft and light, red, and not durable in contact with the soil. It is sometimes used in cabinet-making.

AMERICAN MANGROVE

(Rhizophora mangle)

A TREE of brackish or salt water along the shores and inland rivers and creeks of the Florida Peninsula, the mangrove often forms almost impenetrable thickets, holding together the muddy banks, causing lands to be built up, and forming a protective bulwark against tropical hurricanes.



AMERICAN MANGROVE
Two-thirds natural size.

Often a low, bushy, round-topped tree, up to 30 feet in height, with many aerial roots; sometimes a tree up to 80 feet in height, with a straight trunk clear for 40 feet or more, and a narrow top, or head. The branchlets are pithy, reddish brown, becoming later a light reddish gray and roughened.

The **leaves** are oval or elliptical, rounded at the outer end and narrowing toward the base, dark green and very shiny on the upper surface, thick, and 2 to 6 inches long by 1 to 2 inches broad. They are evergreen and borne in an opposite arrangement along the stem.

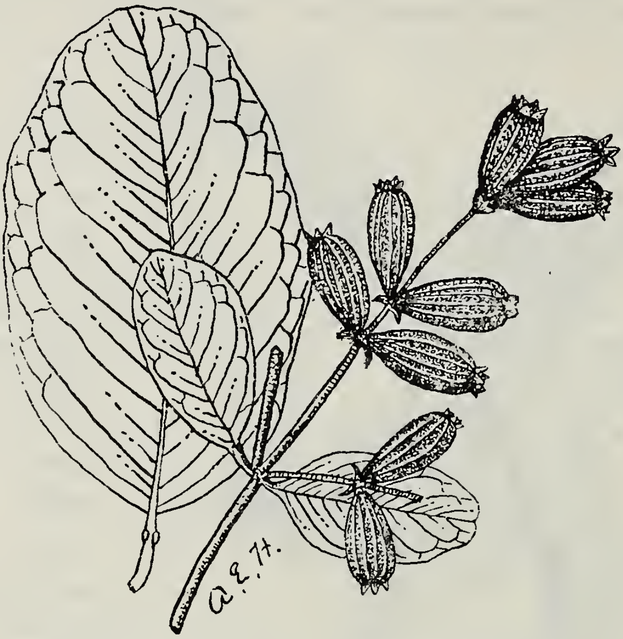
The **flowers** are pale yellow, with 4 petals, about an inch in diameter, usually 2 or 3 in a cluster springing from the leaf axils. Some are opening throughout the year. The **fruit is** a leathery brown berry, about 1 inch long, hanging, slightly roughened, and containing a seed which generally germinates before the fruit falls, sending out the young root (radicle) often to a length of 10 to 12 inches.

The **wood** is very hard and heavy, strong, dark-reddish brown streaked with lighter brown, surrounded by lighter sapwood. It is used for wharf piling and fuel.

FALSEMANGROVE (Buttonwood or White Mangrove)

(Laguncularia racemosa)

THE buttonwood, or white mangrove, is a tree of the muddy tidal shores of bays and lagoons from Cape Canaveral on the east and Cedar Keys on the west coasts, south over the Keys, reaching greatest abundance and largest size in or near Monroe County. It attains heights up to 60 feet and diameters up to 20 inches, although generally smaller. The top is usually narrow and rounded.



FALSEMANGROVE OR BUTTONWOOD
Leaves, one-half and full natural size.
Fruit, natural size.

This tree is widely distributed through the Antilles, Central and South America and western Africa.

The **leaves** are opposite, smooth, thick and leathery, oblong and rounded at the ends, about 1 to 2 inches long and nearly as wide, and dark green on their upper surfaces.

The **flowers** occur in an opposite arrangement along a central stem (spike), each about ¼-inch long, or 5 nearly round petals. The central flower-stems spring from the leaf axils, near the ends of the young branchlets, and some flowers are opening nearly through the year. The **fruit** is a 10-ribbed hard "pod," flattened with 2 thin ridges or "wings," and about ½-inch in length. It contains a single dark red, thin-walled seed.

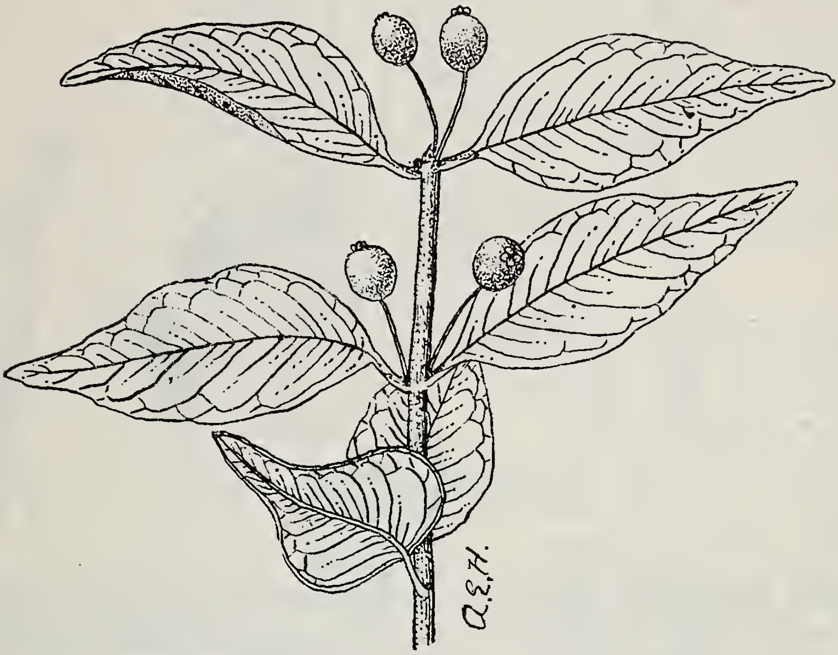
The **wood** is dark yellow-brown, heavy, hard and strong. The **bark** has astringent properties and contains a high percentage of tannin, used in tanning leather.

REDBERRY EUGENIA (Red Stopper)

(Eugenia confusa)

THE red stopper is a tree of the hammocks on the Keys of southern Florida. It attains heights up to 60 feet and diameters up to 20 inches with a straight trunk covered with thin, reddish cinnamon **bark** breaking up into thin scales. The branchlets are gray in color

The long-pointed **leaves** are broader near the base, dark green and very shiny on the upper surface, from 1 to 2 inches long, opposite on the stem.



REDBERRY EUGENIA OR RED STOPPER
Natural size.

The **flowers** of this species, or kind, of stopper are very small and borne in clusters from the axils of the leaves. The **fruit** is a round, bright scarlet berry about ⅓ inch across, roughened, solitary (one on a stem), and contains usually one seed with a hard, brown covering.

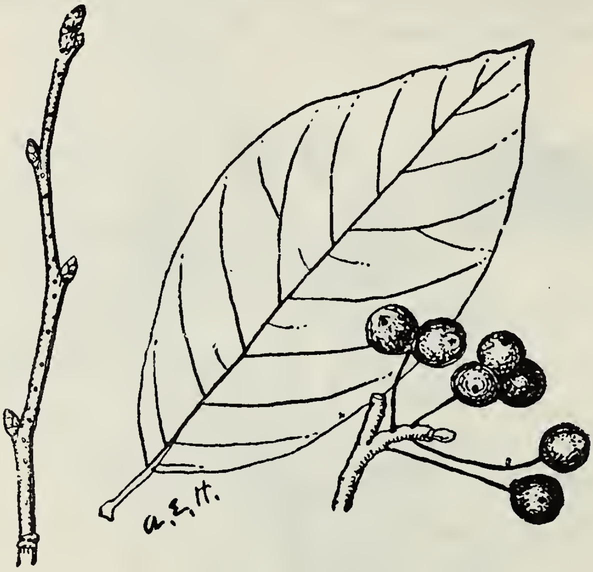
The **wood** is very heavy, very hard, strong, close-grained, light reddish brown, surrounded by a wide band of light-colored sapwood.

Six species of stopper came into Florida from the tropics. The cloves of commerce are the flower buds of a species in the Molucca Islands, and the rose apple, a native of India, but planted locally in southern Florida, and the delicately fragrant and prized Surinam cherry are two other species of the genus Eugenia.

BLACK TUPELO (Black or Sour Gum)

(Nyssa sylvatica)

THE black gum, often called sour gum, has been considered a weed in the forest. Weed-like, it finds footing in many types of soil and conditions of soil moisture through the northern and central parts of the State. A close relative, the water-gum resembles it but grows in shallow ponds and the edges of swamps.



BLACK TUPELO
One-half Natural size.

The **leaves** are simple, 2 to 4 inches long, entire, often broader near the apex, shiny, and dark green in color. In the fall the leaves turn a most brilliant red.

The **bark** on younger trees is furrowed between flat ridges, and gradually develops into quadrangular blocks that are dense, hard and nearly black.

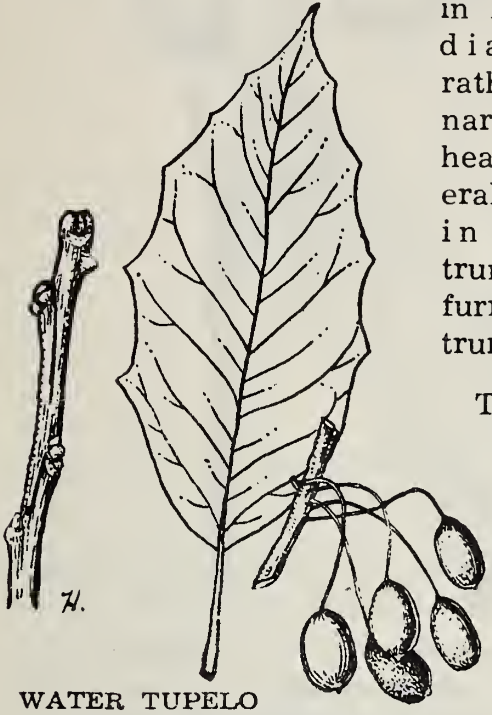
The greenish **flowers** on long slender stems appear in early spring when the leaves are about one-third grown. They are usually of two kinds, the male in many-flowered heads and the female in two to several-flowered clusters on different trees. The **fruit** is a dark blue, fleshy berry, two-thirds of an inch long, containing a single hard-shelled seed, and is borne on long stems, 2 to 3 in a cluster.

The **wood** is very tough, cross-grained, not durable, in contact with the soil, hard to work, and warps easily. It is used for crate and basket veneers, box shooks, rollers, mallets, rough floors, mine trams, pulpwood and fuel. In the old days, the hollow trunks were used for "bee gums."

WATER TUPELO (Tupelo or Cotton Gum)

(Nyssa aquatica)

THE tupelo gum, or cotton gum, inhabits only the deep river swamps or coastal swamps which are usually inundated during a part of the year. It occurs over northern Florida. The commonly enlarged base, large-sized fruit, or "plum," hanging on a long stem, together with the brittleness of the twigs, serves to distinguish it from the black gum. It forms a tall, often slowly tapering, somewhat crooked trunk, 50 to 75 feet in height and 2 to 3 feet in diameter. The spreading, rather small branches form a narrow, oblong or pyramidal head. The branches are generally smooth and light brown in color. The **bark** of the trunk is thin, dark brown, and furrowed up and down the trunk.



WATER TUPELO
Leaf, one-third natural size.
Twig, two-thirds natural size.

The **leaves** are simple, ovate or oblong in shape, acute and often long-pointed. When mature they are thick, dark green and lustrous on the upper side, pale and somewhat downy on the lower side, 5 to 7 inches long and 2 to 4 inches at the top, wedge-shaped at the base, irregular and slightly notched or toothed on the margin. The leaf-stem is stout, 1 to 2 inches long, grooved and enlarged at the base.

The **flowers,** which appear in March or April, are of two kinds, usually borne on separate trees, the male in dense round clusters, and the female solitary on long slender stems.

The **fruit,** ripening in early fall, is a so-called "plum," oblong or obovate in shape, about an inch long, dark purple, and has a thick, tough skin enclosing a flattened stone, borne on a slender stalk 3 to 4 inches long.

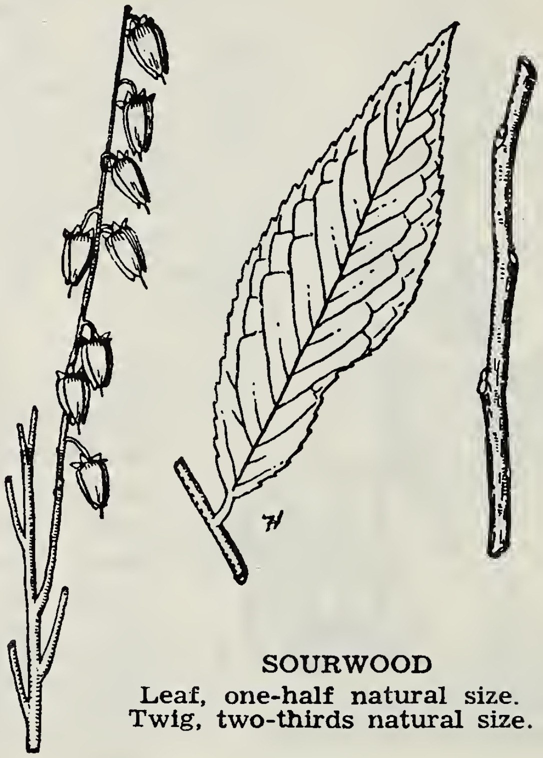
The **wood** is light, soft, and not strong. It is used for woodenware, broom handles, fruit and vegetable packages. As lumber it is marketed as tupelo or bay poplar. The root-wood is often extremely light in weight and is sometimes used for floats for fish nets.

SOURWOOD (Sorrel Tree)

(Oxydendrum arboreum)

THE sourwood is found scattered throughout the western part of the State on both rich and poor soil, but is least abundant in the low alluvial lands. It is a tree of small dimensions, 8 to 12 inches in diameter, and 30 to 40 feet high, rarely larger.

The **bark** is thin, light gray and divided into narrow shallow ridges. On the strong, straight, first-year shoots it is often a bright red.



SOURWOOD
Leaf, one-half natural size.
Twig, two-thirds natural size.

The **leaves** are from 4 to 7 inches long, simple, alternate, decidedly acid to the taste, often rough with solitary stiff hairs. They are a lustrous green on the upper surface, generally turning a deep crimson in the fall.

The **flowers** are small, white or cream-colored, borne in panicles from 5 to 10 inches long on the ends of the twigs, and appear in late summer. They provide storehouses of nectar from which bees make excellent honey.

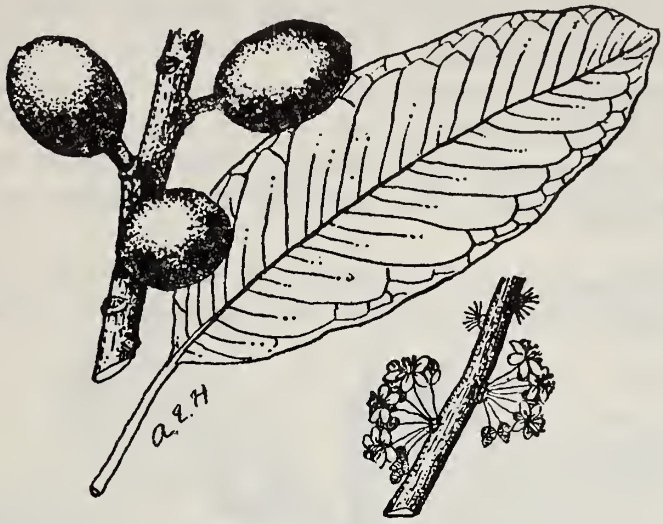
The **fruit** is a conical, dry capsule, one-third to one-half an inch in length, containing numerous small seeds. These capsules hang in drooping clusters sometimes a foot in length, often late into the fall.

The **wood** is heavy, hard, very close-grained, compact, brown in color, sometimes tinged with red. It is used to some extent for turnery, handles and for some other uses.

JUNGLEPLUM (Mastic or Wild Olive)

(Sideroxylon foetidissimum)

THE mastic is a large valuable timber tree found along the coasts from Brevard and Lee Counties south, including the Keys. It grows to heights of 70 feet with a large straight trunk from 3 to 4 feet in diameter, crowned with stout branches and smooth, reddish brown branchlets forming an irregular head. A milky sap exudes from fresh wounds.



JUNGLEPLUM OR MASTIC
Two-thirds natural size.

The **leaves** are oval to oblong, smooth, bright-green and shiny above, yellow-green below, 3 to 5 inches long by 1 to 2 inches wide, thin but firm in texture. They remain green for more than a year and are usually clustered near the ends of the branchlets. New leaves appear during the year.

The **flowers** are very small and appear in crowded clusters (fascicles), each on a stout flower-stalk, or pedicel. The petals are light yellow, and flowers may be found opening in fall, spring and summer. The **fruit** is olive-shaped, with a firm yellow skin, and thick juicy flesh of a pleasant rather acid flavor. It is relished by some people. It is born on a stout woody stem and ripens mostly in March or April. Each contains a single oblong seed about ½ inch long, with a thick fleshy albumen content.

The **wood** of the mastic tree is heavy, hard, strong, of a bright orange color, surrounded by a band of yellowish sapwood. It is used for boat building. The mastic is said to be well adapted for planting as a shade-tree.

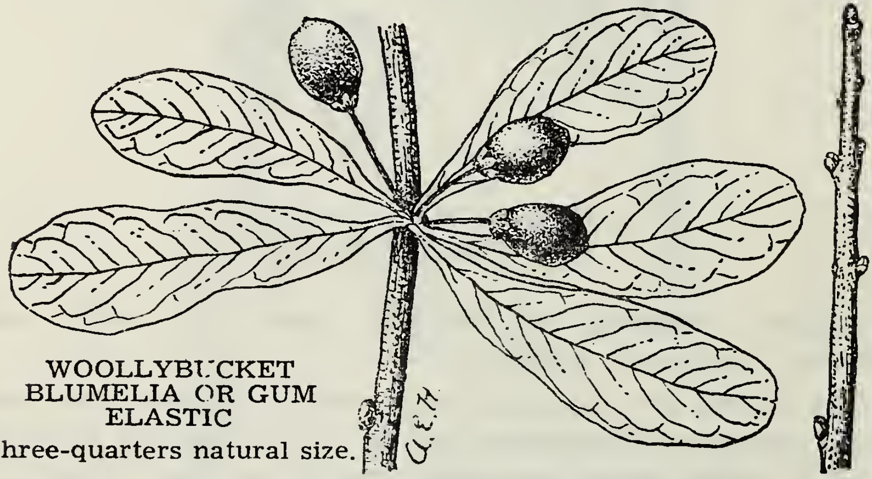
This and the gum elastic tree belong to a tropical and sub-tropical tree family, from one member of which in the Malay Peninsula gutta-percha is obtained.

WOOLLYBUCKET BUMELIA
(Gum Elastic or Chittam Wood)
(Bumelia lanuginosa)

THE gum elastic is known to occur in Florida along stream and in sandy woods from near Lake City (Columbia County) to Cedar Keys (Levy County) and westward. It ranges from southern Georgia west to Texas and up the Mississippi Basin to southern Illinois. It reaches its largest development probably in the central coastal region of Texas.

In Florida it is a small tree up to 25 feet in height by 6 to 8 inches in diameter, but in dry, sandy locations often a shrub, and massed in thickets. The branches are short, stout and stiff, and often armed with straight or curved spines.

The **leaves** are oblong, more or less grouped near the ends of short branchlets, or spurs, rounded at the apex, narrowed at the base, thick, firm, dark green and shiny above, and partly covered below with soft brown to silvery hairs. They are from 1 to over 2 inches in length and up to ¾ inch wide.



WOOLLYBUCKET
BLUMELIA OR GUM
ELASTIC
Three-quarters natural size.

The **flowers** are very small and open in summer, each borne on a hairy flower-stem (pedicel) about ⅛ inch long. They are borne in clustered groups of 15 to 18, springing from near the axils of the new leaves or near the leaf-scars of old leaves. The petals are white and lobed. The **fruit** is fleshy, black, oblong, about ½ inch in length, borne singly or in a cluster of 2 or 3, and usually dry and firm on the outside. A single, light-brown, firm, rounded seed is borne in each, ripe when the fruit falls from the tree in autumn.

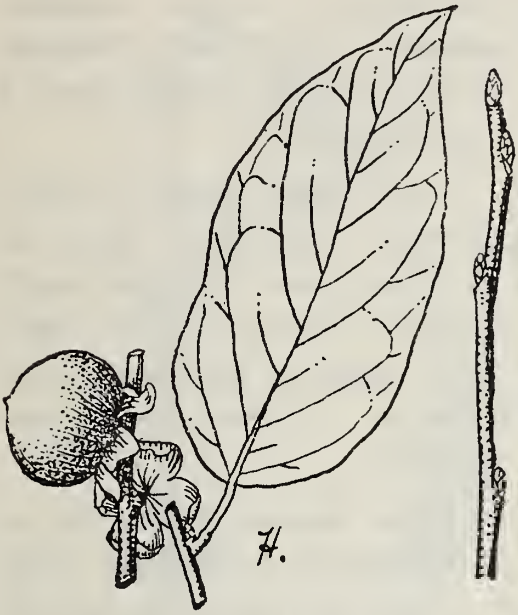
The **wood** is light-brown streaked with white and surrounded by a band of lighter colored sapwood. It is heavy, hard, and close-grained.

The name "gum elastic" refers to the tough jelly-like masses which form on the bark upon the drying of a milky juice.

COMMON PERSIMMON

(Diospyros virginiana)

THE persimmon, often called "simmon," is a well-known tree throughout southern United States. It is usually a medium-sized tree, rarely exceeding 60 feet in height and 18 inches in diameter, occurring throughout the State. It seems to prefer open, sandy woods, and is most abundant in old fields, though it occurs on hammock and rich bottomlands. The **bark** of old trees is almost black and separated into thick nearly square blocks, much like the black gum.



COMMON PERSIMMON
Leaf, one-half natural size.
Twig, three-quarters natural size.

The **leaves** are alternate, oval, entire, 3 to 6 inches long, dark green and shining above, paler beneath.

The small **flowers**, which appear in May, are yellowish or cream-white, somewhat bell-shaped, the two kinds occurring on separate trees; the male in clusters of 2 or 3, the female solitary. They are visited by many insects.

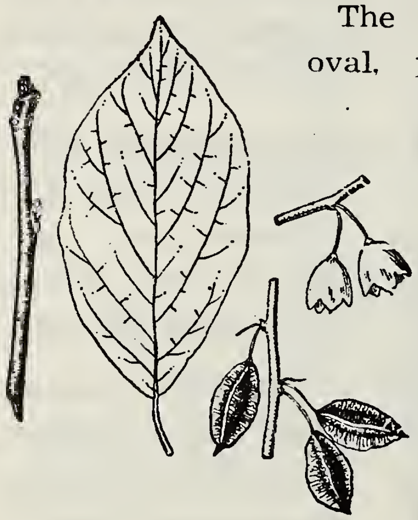
The **fruit** is a pulpy, round, orange-colored or brown berry, an inch or more in diameter and containing several flattened, hard, smooth seeds. It is strongly astringent while green, but often quite sweet and delicious when thoroughly ripe. It is much relished by children and by dogs, 'possums and other animals.

The **wood** is hard, dense, heavy, strong, the heartwood brown or black, the wide sapwood white or yellowish. It is particularly valued for shuttles, golf-stick heads, and similar special uses, but is not of sufficient commercial use to arrant its general encouragement as a timber tree.

CAROLINA SILVERBELL

(Halesia carolina)

THIS tree occurs in its best development in the more northern States, particularly the mountainous regions, but extends over northern and central Florida. It attains a height of about 40 feet and a diameter of 20 inches or more, but only in favorable localities does it grow large enough for commercial use. It is commonly found in the woods and near watercourses. It is occasionally planted, as it makes a desirable ornamental tree.



CAROLINA SILVERBELL
Leaf, one-half natural size.
Twig, one-third natural size.

The **leaves** are simple, opposite, oval, pointed, thin, finely toothed, and vary in length from 2 to 4 inches.

The **bark** ranges in color from very light gray in young trees to a very dark reddish brown in old trees. It separates into scales and strips as the tree grows older.

The **flowers** are white or sometimes tinged with pink, nearly an inch long, and appear in early spring with the unfolding of the leaves. The pendent, bell-like flowers suggest the names silverbell and snowdrop tree. The **fruit** is from 1 to 2 inches long and nearly an inch wide, with a corky, four-winged covering. The solitary seed is a bony stone.

The **wood** is soft, light cherry-colored streaked with white; the sapwood is white or creamy. Where large enough, it is cut for lumber and used as a substitute for cherry.

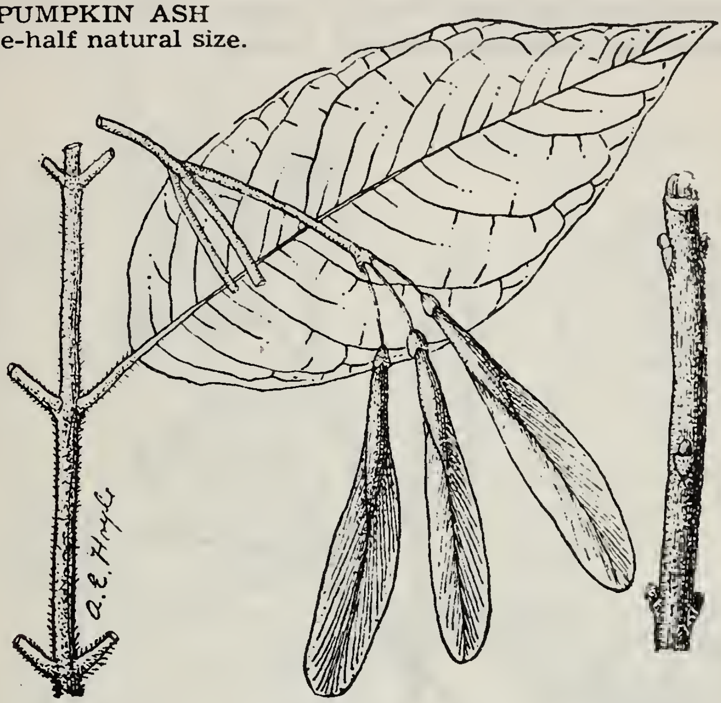
A smaller tree of this genus, the snowdrop tree, occurs over northern Florida and somewhat farther south into the Peninsula.

PUMPKIN ASH

(Fraxinus tomentosa)

THE pumpkin ash grows in deep-river swamps in central and western Florida. It is a tree that ranges over the Mississippi Basin from Indiana to Louisiana and eastward to Florida. It reaches heights of toward 100 feet with a moderately slender trunk, sometimes up to 3 feet, however, usually with a much enlarged base as is common with trees of the deep swamps, such as the cypress and tupelo gum. The mature branchlets are light gray. The ashes all have the opposite branching habit.

PUMPKIN ASH
One-half natural size.



The **leaves** of the pumpkin ash are hairy on the midrib, or central leaf-stem—a distinguishing characteristic. They are opposite on the stem (like all the ashes) and composed of 7 (occasionally 9) leaflets, each from 5 to 10 inches long up to 5 inches wide, long pointed, smooth or slightly notched on the margin, thick and firm in texture, yellow-green and nearly smooth above and soft downy below. The whole leaf, including the central stem and terminal leaflet, varies from 10 to 18 inches in length.

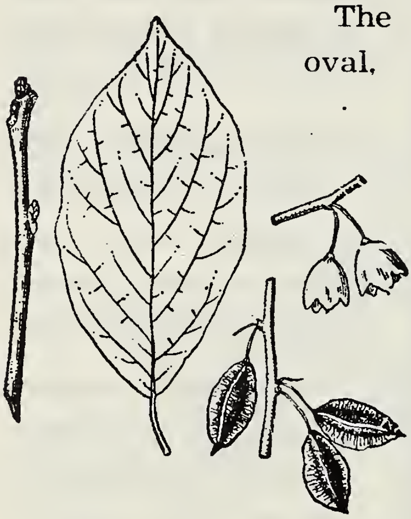
The **flowers** are of two kinds borne on separate trees, and very small and in small clusters. The **fruit** is winged, 2 to 3 inches long and about ½ inch wide, generally rounded at the end although sometimes slightly pointed, and clasping the round, thickened base, or body of the fruit only near its end. A single seed is enclosed.

The **wood** of the pumpkin ash is generally similar to that of the green ash but somewhat lighter, softer, and weaker, as shown by various mechanical tests.

CAROLINA SILVERBELL

(Halesia carolina)

THIS tree occurs in its best development in the more northern States, particularly the mountainous regions, but extends over northern and central Florida. It attains a height of about 40 feet and a diameter of 20 inches or more, but only in favorable localities does it grow large enough for commercial use. It is commonly found in the woods and near watercourses. It is occasionally planted, as it makes a desirable ornamental tree.



CAROLINA SILVERBELL

Leaf, one-half natural size.
Twig, one-third natural size.

The **leaves** are simple, opposite, oval, pointed, thin, finely toothed, and vary in length from 2 to 4 inches.

The **bark** ranges in color from very light gray in young trees to a very dark reddish brown in old trees. It separates into scales and strips as the tree grows older.

The **flowers** are white or sometimes tinged with pink, nearly an inch long, and appear in early spring with the unfolding of the leaves. The pendent, bell-like flowers suggest the names silverbell and snowdrop tree. The **fruit** is from 1 to 2 inches long and nearly an inch wide, with a corky, four-winged covering. The solitary seed is a bony stone.

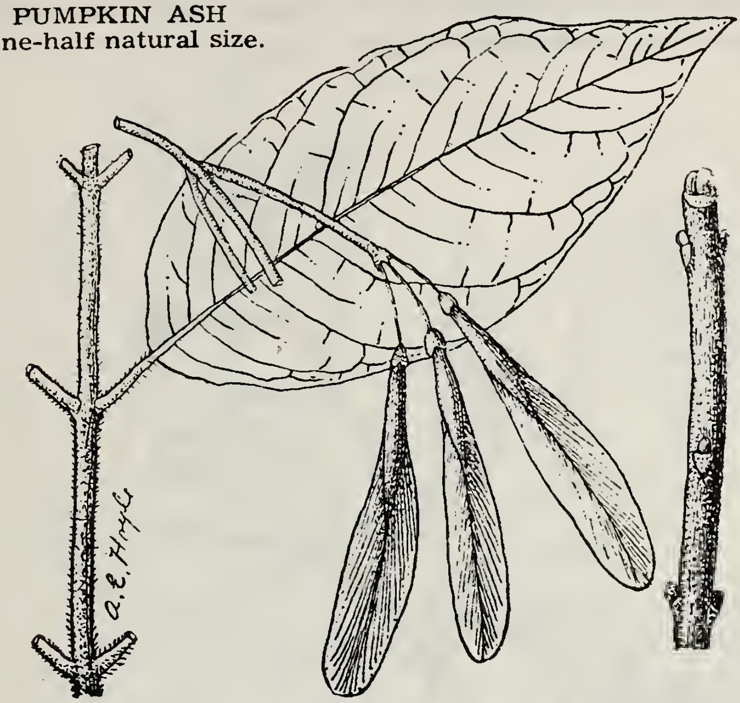
The **wood** is soft, light cherry-colored streaked with white; the sapwood is white or creamy. Where large enough, it is cut for lumber and used as a substitute for cherry.

A smaller tree of this genus, the snowdrop tree, occurs over northern Florida and somewhat farther south into the Peninsula.

PUMPKIN ASH

(Fraxinus tomentosa)

THE pumpkin ash grows in deep-river swamps in central and western Florida. It is a tree that ranges over the Mississippi Basin from Indiana to Louisiana and eastward to Florida. It reaches heights of toward 100 feet with a moderately slender trunk, sometimes up to 3 feet, however, usually with a much enlarged base as is common with trees of the deep swamps, such as the cypress and tupelo gum. The mature branchlets are light gray. The ashes all have the opposite branching habit.



PUMPKIN ASH
One-half natural size.

The **leaves** of the pumpkin ash are hairy on the midrib, or central leaf-stem—a distinguishing characteristic. They are opposite on the stem (like all the ashes) and composed of 7 (occasionally 9) leaflets, each from 5 to 10 inches long up to 5 inches wide, long pointed, smooth or slightly notched on the margin, thick and firm in texture, yellow-green and nearly smooth above and soft downy below. The whole leaf, including the central stem and terminal leaflet, varies from 10 to 18 inches in length.

The **flowers** are of two kinds borne on separate trees, and very small and in small clusters. The **fruit** is winged, 2 to 3 inches long and about ½ inch wide, generally rounded at the end although sometimes slightly pointed, and clasping the round, thickened base, or body of the fruit only near its end. A single seed is enclosed.

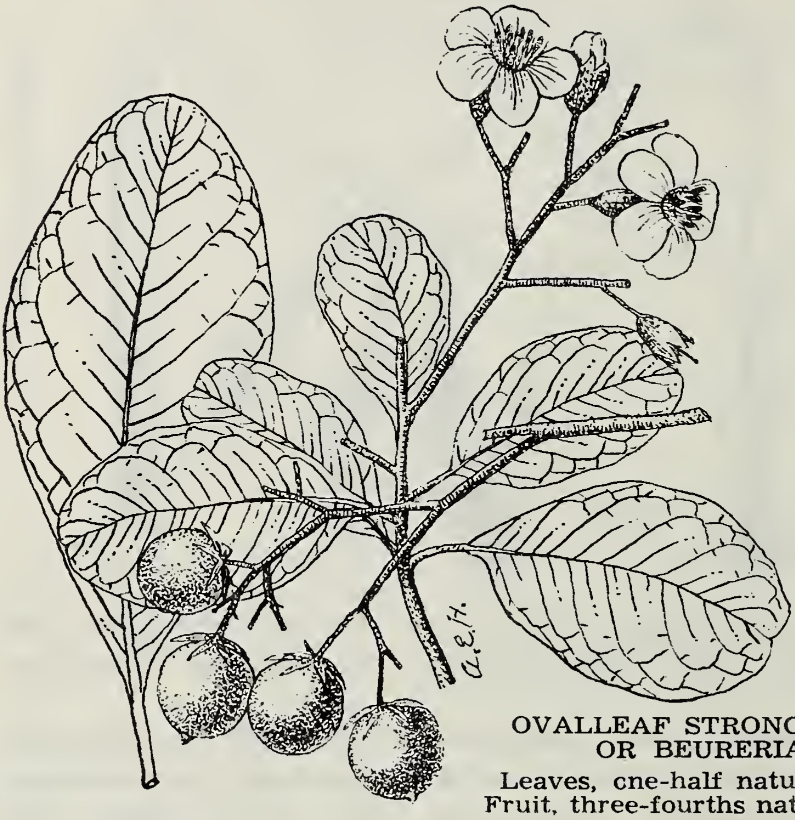
The **wood** of the pumpkin ash is generally similar to that of the green ash but somewhat lighter, softer, and weaker, as shown by various mechanical tests.

OVALLEAF STRONGBARK (Beureria)

(Bourreria ovata)

THIS is a small tree of the hammocks of the coast and Keys of extreme southern Florida, found over the Bahamas and Antilles. It is a member of the botanical Borage family.

A tree attaining heights sometimes up to 50 feet, although more often much smaller, it has a buttressed, or fluted, base and a trunk up to nearly a foot in diameter. The thin bark is light brown tinged with red, slightly roughened by irregular-shaped scales.



OVALLEAF STRONGBARK
OR BEURERIA
Leaves, one-half natural size.
Fruit, three-fourths natural size.

The **leaves** are oval, broader over the outer portion, rounded at the apex and narrowed at the base, about 2 to 3 inches long by 1 to 2 inches broad, thick, dark yellow-green and shiny above and paler below. They remain on the tree for two seasons.

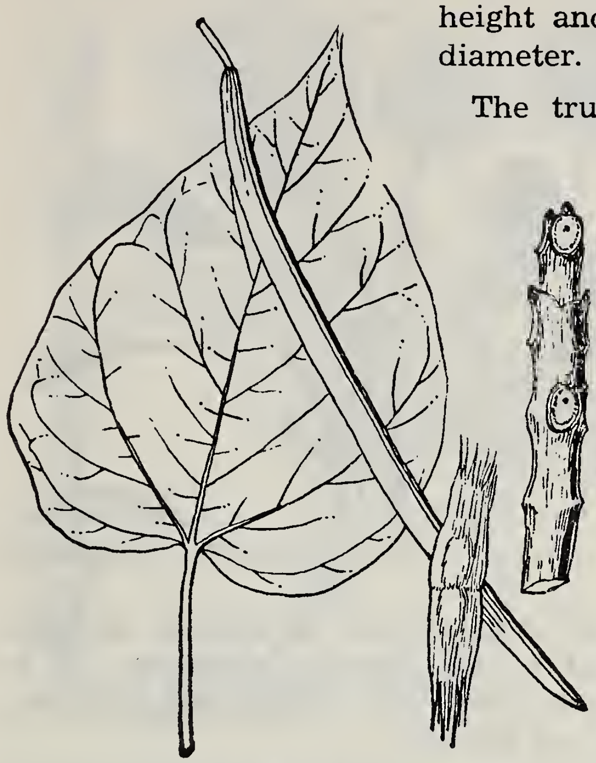
The **flowers** appear in the late fall and spring, in long open clusters (cymes) on the ends of the branchlets. The five petals are creamy white, and altogether are about ¾ inch across. The **fruit** is nearly round, bright orange-red, ½ inch in diameter, with a dry hard coating, and contains 4 small, bony lobes, or chambers, each bearing a round, light brown seed.

The **wood** is hard, strong, very close-grained from the slow growth, and generally brown streaked with red.

SOUTHERN CATALPA

(Catalpa bignonioides)

THIS species of catalpa, known also as Indian beam or Indian cigar, and often miscalled "catawba," is native to western Florida but has become naturalized widely. A close relative, the western catalpa, or hardy catalpa, and a straighter, better tree, has been more widely planted and naturally spread from cultivation. It requires good soils, and is a medium-sized tree, usually not exceeding 40 to 50 feet in height and 12 to 15 inches in diameter.



SOUTHERN CATALPA
Twig, two-thirds natural size.
Leaf, one-third natural size.

The trunk is usually short and the head broad with spreading branches. Because of its attractive flowers and conspicuous heart-shaped leaves, it is considerably used for shade and ornament.

The **leaves** are simple, opposite, oval, long-pointed, 5 to 8 inches long, and heart-shaped at the base. The catalpa Sphinx moth is a pest and sometimes defoliates the tree.

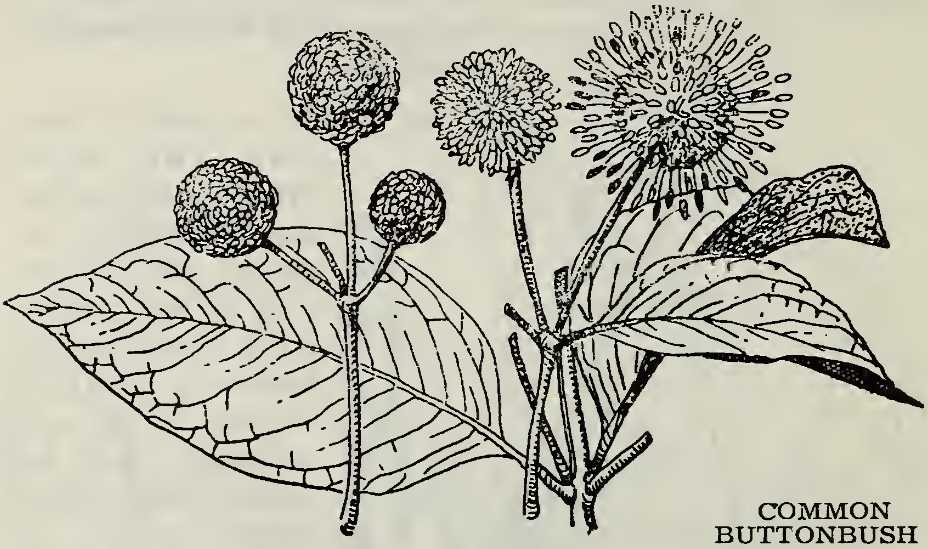
The **flowers** appear in clusters or panicles. They are white with purple and yellow markings, and this makes them decidedly showy and attractive. The **fruit** consists of a bean-like pod, 8 to 16 inches long and from three-eighths to one-half inch in diameter. It hangs on the tree over the winter and gradually splits into two parts, or halves. The seeds are about 1 inch long and terminate in wings that are rounded and short-fringed at the ends. They are freely carried by the wind.

The **wood** is rather soft, light, coarse-grained, and durable in contact with the soil. It is used for fence posts, poles and fuel, and occasionally for railroad ties.

COMMON BUTTONBUSH

(Cephalanthus occidentalis)

THE buttonbush is a small tree or large shrub, occasionally reaching heights up to 40 to 50 feet. It has a straight tapering trunk reaching at the largest about a foot in diameter. The branches are generally upright and the branchlets spreading and pithy in the centers. They often occur in whorls of three from one place on the stem. The tree or shrub grows along the low wet borders of ponds and streams and in shallow swamps throughout almost all of the Florida mainland. It is very widely distributed over the United States, Cuba, and parts of Canada and Mexico.



Leaf, one-third natural size. Fruit, two-thirds natural size.

The **leaves** occur in pairs or in whorls of 3 (occasionally more), each oval or elliptical, pointed and rounded at the base, from 2 to 7 inches long by 1 to 3 inches wide. They are dark green on the upper side, thin, with a large central midrib, which is yellowish and often covered with long white hairs. Some fall in the autumn, others remain on the branchlets over winter.

The **flowers** form a creamy white or yellow, round head about an inch in diameter, borne in clusters, or panicles. The heads are made up of many very small flowers, each fragrant and nectar-bearing, hence much sought by bees and other insects. The long thread-like projections (styles) very conspicuous over the flowering heads, are the outer portions of the seed-bearing or female portions of the flower. The **fruit** is a compound ball, or mass, ¾ inch across, dark brown when ripe and hard in texture, containing two elongated seeds from each separate flower. The **wood** is said to be heavy, hard and close-grained, of a yellow or yellow-brown color.

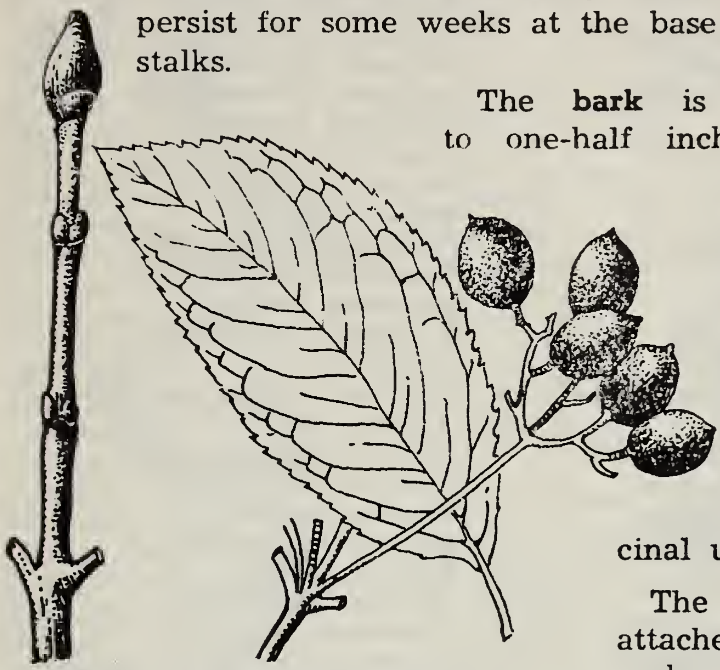
RUSTY BLACKHAW VIBURNUM

(Southern Black Haw)

(Viburnum rufidulum)

THE southern black haw is found in woods and thickets over northern and central Florida. It forms a tree sometimes 35 feet high with a trunk over a foot in diameter, but is usually much smaller, often flowering as a shrub. The twigs are ashy-gray, becoming dark dull reddish brown after one to several years. The winter buds are densely covered with rusty brown hairs which persist for some weeks at the base of the leaf-stalks.

The **bark** is one-quarter to one-half inch thick becoming roughened into small plate-like dark brown scales tinged with red. The bark has medicinal use.


RUSTY BLACKHAW VIBURNUM
Three-quarters natural size.

The **leaves** are attached opposite each other on the stem, elliptic to obovate or oval, pointed or blunt at the apex, wedge-shaped or rounded at the base, and with fine teeth on the margin. They are leathery in texture, very shining and dark green above, pale and dull below, about 3 inches long and 1 to 1½ inches wide.

The **flowers** are small and white, and each has five petals and five stamens, appearing in the spring, in dense clusters at the tips of branches.

The **fruit** is also clustered, and ripens in the fall. It is a bright-blue oval drupe or berry, over one-half inch long, covered with a glaucous bloom, and containing a stony seed one-half inch long and one-third inch wide.

The **wood** is bad smelling and has no economic use. The tree is occasionally cultivated and is desirable for decorative planting.

Two other black haws, or viburnums, occur over northern and middle Florida, either as small trees or shrubs.

OTHER NATIVE TREES

An alphabetical list of trees native to Florida, but not of sufficient importance to warrant detailed description, follows. The common names of these species appear in the column on the left and the botanical names on the right of the page.

Alvarado, Mexican	*Alvaradoa amorphoides*
Amyris, Balsam	*Amyris Balsamfera*
Amyris, Sea	*Amyris, elemifera*
Apes-earing, Catclaw	*Pithecellobium unguiscati*
Ash, Florida	*Fraxinus pauciflora*
Ash, Red	*Fraxinus pennsylvanica*
Ash, White	*Fraxinus americana*
Ash, Smallseed White	*Fraxinus americana microcarpa*
Baccharis, Eastern	*Baccharis halimifolia*
Baccharis, Southern	*Baccharis glomeruliflora*
Balata	*Manikara parvifolia*
Baldcypress, Pond	*Taxodium ascendens*
Baycedar	*Suriana maritima*
Birch, River	*Betula nigra*
Bitterbush, Florida	*Polygonum pentandra*
Blackcalabash	*Enallagma cucurbitina*
Blackmangrove	*Avicennia marina*
Boxwood, Florida	*Schaefferia frutescens*
Bucida, Oxhorn	*Bucida Buceras*
Buckeye, Georgia Painted	*Aesculus neglecta georgiana*
Buckeye, Red	*Aesculus pavia*
Buckeye, Scarlet Woolly	*Aesculus discolor mollis*
Buckthorn, Carolina	*Rhamnus caroliniana*
Bumelia, Buckthorn	*Bumelia lycioides*
Bumelia, Saffronplum	*Bumella angustifolia*
Bumelia, Tough	*Bumelia tenax*
Bustic, Willow	*Dipholis salicifolia*
Buttonmangrove	*Conocarpus erecta*
Byrsonima, Longkey	*Byrsonima lucida*
Canela, Cinnamon	*Canella winterana*
Caper, Jamaica	*Capparis cynophallophora*
Cherry, Black	*Prunus serotina*
Cherrypalm, Buccaneer	*Pseudophoenix vinifera*
Chestnut, American	*Castanea dentata*
Chinkapin, Allegany	*Castanea pumila*
Chinkapin, Florida	*Castanea floridana*
Citrus	*Citrus spp.*
Cocoplum, Icaco	*Chrysobalanus icaco*
Coconut	*Cocos, nucifera*
Colubrina, Cuba	*Colubrina cubensis*
Colubrina, Soldierwood	*Colubrina reclinata*
Colubrina, Wildcoffee	*Colubrina arborescens*
Cordia, Geigertree	*Cordia sebestena*
Crabapple, Southern	*Malus angustifolia*
Cupania, Florida	*Cupania glabra*
Cyrilla, American	*Cyrilla racemiflora*
Dahoon	*Ilex cassine*
Darlingplum, Northern	*Reynosia septentrionalis*
Devils-walkingstick	*Aralia spinosa*
Dogwood, Flowering	*Cornus florida*
Dogwood, Pagoda	*Cornus alternifolia*
Dogwood, Roughleaf	*Cornus asperifolia*
Drypetes, Milkbark	*Drypetes diversifolia*
Drypetes, Whitewood	*Drypetes lateriflora*
Elder, Florida	*Sambucus simpsoni*

Eugenia, Bahama	*Eugenia bahamensis*
Eugenia, Boxleaf	*Eugenia buxifolia*
Eugenia, Simpson	*Eugenia simpsoni*
Eugenia, Spiceberry	*Eugenia rhombea*
Eugenia, Trailing	*Eugenia longipes*
Eugenia, Twinberry	*Eugenia dicrana*
Eugenia, Whitestopper	*Eugenia axillaris*
Falsebox, West Indies	*Gyminda latifolia*
Fiddlewood, Florida	*Citharexylum fruticosum*
Fig, Shortleaf	*Ficus brevifolia*
Forestiera, Texas	*Forestiera acuminata*
Fringetree, White	*Chionanthus virginicus*
Genip, Sevenyearapple	*Genipa clusiifolia*
Graytwig, Gulf	*Schoepfia chrysophylloides*
Hackberry, Georgia	*Celtis pumila georgiana*
Hickory, Coast Pignut	*Carya glabra megacarpa*
Hickory, Pecan	*Carya illinoensis*
Hickory, Sand	*Carya pallida*
Hickory, Scrub	*Carya floridana*
Holly, Tawnyberry	*Ilex krugiana*
Honeylocust, Common	*Gleditsia triancanthos*
Hopseedbush, Florida	*Dodonaea microcarya*
Hoptree, Woolly Common	*Ptelea trifoliata mollis*
Inkwood	*Hypelate trifoliata*
Jacquinia, Joewood	*Jacquinia keyensis*
Latanierbalai	*Coccothrinax argentea*
Leadwood	*Krugiodendron ferreum*
Leafflower, Otaheite-Gooseberry	*Phyllanthus acidus*
Lidflower, Myrtle-of-the-River	*Calyptranthes zuzygium*
Lidflower, Pale	*Calyptranthes pallens*
Lignumvitae, Holywood	*Guajacum Sanctum*
Magnolia, Cucumbertree	*Magnolia acuminata*
Magnolia, Fraser	*Magnolia fraseri*
Magnolia, Pyramid	*Magnolia pyramidata*
Mahogany, West Indies	*Swietenia mahagoni*
Maidenbush, Bahama	*Savia bahamensis*
Manchineel	*Hippomane mancinella*
Mayten, Guttapercha	*Maytenus phyllanthoides*
Misanteca, Gulf	*Misanteca triandra*
Mountainlaurel	*Kalmia latifolia*
Nightshade, Mullein	*Solanum verbascifolium*
Oak, Blackjack	*Quercus marilandica*
Oak, Bluff	*Quercus austrina*
Oak, Chapman	*Quercus, chapmani*
Oak, Cherrybark	*Quercus falcata leucophylla*
Oak, Myrtle	*Quercus myrtifolia*
Oak, Sand Live	*Quercus virginiana germinata*
Oak, Seminole Live	*Quercus virginiana virescens*
Oak, Southern Red	*Quercus, falcata*
Oak, Swamp Red	*Quercus falcata pagodaefolia*
Oak, Threelobed Red	*Quercus, falcata triloba*
Ocotea, Gulf	*Octotea catesbyana*
Osmanthus, Devilwood	*Osmanthus americanus*
Osmanthus, Hammock	*Osmanthus floridanus*
Oysterwood, Shiny	*Gymnanthes lucida*
Papaya	*Carica Papaya*
Paradisetree	*Simaruba glauca*
Paurotis, Saw	*Paurotis wrighti*
Pawpaw, Common	*Asimina triloba*
Persea, Swampbay	*Persea palustris*
Pinckneya	*Pinckneya pubens*

Plum, Chickasaw	*Prunus angustifolia*
Plum, Flatwoods	*Prunus umbellata*
Plum, Wakulla American	*Prunus americana floridana*
Poisonsumac	*Toxicodendron vernix*
Possumhaw	*Ilex decidua*
Prickleyash, Biscayne	*Zanthoxylum coriaceum*
Prickleyash, Herculesclub	*Zanthoxylum clavaherculis*
Prickleyash, Lime	*Zanthoxylum fagara*
Prickleyash, Yellowheart	*Zanthoxylum flavum*
Princewood, Caribbean	*Exostemma caribaeum*
Redbug, Eastern	*Cercis canadensis*
Redcedar, Eastern	*Juniperus virginiana*
Seagrape, Common	*Coccolobis uvifera*
Silverbell, Florida	*Halesia parviflora*
Silverbell, Twowing	*Halesia diptera*
Snowbell, Bigleaf	*Styrax grandiflora*
Soapberry, Southern	*Sapindus saponaria*
Soapberry, Florida	*Sapindus marginatus*
Starapple, Satinleaf	*Chrysophyllum oliviforme*
Sumac, Flameleaf	*Rhus copallina*
Sweetleaf, Common	*Symplocos tinctoria*
Tallowwood	*Ximenia americana*
Thatchpalm, Brittle	*Thrinax microcarpa*
Tupelo, Ogeechee	*Nyssa ogeche*
Tupelo, Swamp Black	*Nyssa sylvatica biflora*
Velvetseed, Everglades	*Guettarda elliptica*
Velvetseed, Roughleaf	*Guettarda scabra*
Viburnum, Walters	*Viburnum obovatum*
Waxmyrtle, Odorless	*Myrica inodora*
Wildcoffee, St. Johns	*Psychotria nervosa*
Wildcoffee, St. Augustine	*Psychotria nervosa lanceolata*
Wildcoffee, Seminole	*Psychotria undata*
Willow, Coastalplain	*Salix longipipes*
Willow, Harbison	*Salix harbisoni*
Yaupon	*Ilex vomitoria*
Yucca, aloe (Spanish Dagger)	*Yucca aloifolia*
Yucca, Moundlily	*Yucca gloriosa*

SOME TREES FROM OTHER COUNTRIES

The following is a list of trees introduced into Florida for shade, decorative purposes, or fruit growing. Many of these species have escaped from cultivation and have become naturalized:

Albizzia, Lebbek (Woman's Tongue)	*Albizzia kalkora*
Albizzia, Silktree	*Albizzia julibrissin*
Apes-erring, Guamachil	*Pithellobium dulcee*
Avocado, American	*Persea americana*
Bauhinia, Buddhist (Mountain Ebony)	*Bauhinia variegata*
Beefwood, Horsetail (Australian Pine)	*Casuarina equisetifolia*
Beefwood, Cunningham (Australian Pine)	*Casuarina cunninghamiana*
Beefwood, Scalybark (Australian Pine)	*Casuarina lepidophloia*
Cajeputtree (Punk Tree)	*Melaleuca leucadendron*

Camphortree	*Cinnamomum camphora*
Cassiabarktree	*Cinnamomum cassia*
Castorbean	*Ricinus communis*
Cedar, Deodar	*Cedrus deodara*
Cedrela, Cigarbox	*Cedrela odorata*
Ceiba, Kapok	*Ceiba pentandra*
Chinaberry	*Melia spp.*
Coffee, Arabian	*Coffee aribica*
Crapemyrtle, Common	*Lagerstroemia indica*
Cypresspine, Sturdy	*Callistris robusta*
Eucalyptus	*Eucalyptus spp.*
Fig, Botree	*Ficus religiosa*
Fig, Indiclaurel	*Ficus retusa*
Fig, Lofty	*Ficus altissima*
Flamboyanttree (Royal Poincianna)	*Delonix regia*
Grevillea, Silkoak	*Grevillea robusta*
Hamelia, Scarlet	*Hamelia erecta*
Hibiscus, Linden	*Hibiscus tilaceus*
Horseradishtree	*Moringa oleifera*
Jacaranda, Sharpleaf	*Jacaranda acutifolia*
Loquat	*Eriobotrya japonica*
Lucuma, Canistel	*Lucuma nervosa*
Mango, Common	*Mangifera indica*
Norfolkislandpine	*Araucaria excelsa*
Oleander, Common	*Nerium oleander*
Olive, Common	*Olea europaea*
Paulownia, Royal	*Paulownia tomentosa*
Peach, Flat	*Prunus persica compressa*
Pear, Common	*Pyrus communis*
Peppertree, California	*Schinus molle*
Pitanga (Surinamcherry)	*Eugenia uniflora*
Podocarpus, Yew	*Podocarpus macrophyllus*
Poincianna, Flowerfence	*Poincianna pulcherrima*
Pomegranate, Common	*Punica granatum*
Portiatree	*Thespesia populnea*
Roseapple	*Syzygium jambos*
Sapium, Brazil	*Sapium biglandulosum*
Sapodilla	*Achras zapota*
Sausagetree	*Kigelia spp.*
Talisia, Florida	*Talisia pedicellaris*
Tamarind	*Tamarindus indica*
Terminalia, Tropical-Almond	*Terminalia catappa*
Tetrazygia, Florida	*Tetrazygia bicolor*
Trema, Florida	*Trema mollis*
Tungoiltree	*Aleurites fordi*
Wildcoffee, Bahama	*Psychotria bahamensis*

PROTECTED TREES AND PLANTS OF FLORIDA

Florida law prohibits the buying, selling, offering or exposing for sale any of the following hollies, trees or plants without written permission of the owner of private lands; and on State lands, permission of proper State authorities must be obtained.

Dahoon *(Ilex cassine* and *Ilex myrtfolia)*

Yaupon or Cassena *(Ilex vomitoria)*

American Holly *(Ilex opaca)*

Dogwood *(Cornus florida* and *Cornus alternifolia)*

Jasmine *(Gelsemium sempervirens)*

Sweet Bay *(Magnolia virginiana)*

Redbud or Judas Tree *(Cercis canadensis)*

Mountain Laurel *(Kalmia latifolia)*

Epiphyte Bromeliads (of which there are 16 species)

Epiphyte Orchids (of which there are 20 species)

Royal Palm *(Roystonea regia)*

Gopherwood or Stinking Cedar *(Torreya taxifolia)*

Taxus Floridana

Trailing Arbutus *(Epigaea repens)*

Tillandsia (except Spanish moss)

Catopsis *(Guzmania)*

634.9097-9
M644f6

Common forest trees of Florida sci
634.909759M444f6
3 1262 03262 5708